THE

NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. Boston, March, 1869. VOL. III.---NO. 3.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. MONTHLY. SIMON BROWN, S. FLETCHER, } EDITORS.

MARCH.

MARCH, the fourth month of winter in our climate, is now upon us. The days are growing longer, and we begin to see increasing indications of the power of the sun. The snow is wasting away and the mud and slosh are growing deeper, and the wheels cut deeper and deeper into the ruts every day, and the warmth from above will soon reach the warmth that has been treasured in the earth, and the frozen crust that has covered the earth like a blanket and protected it from the cold wind, and enabled it to retain its accumulated heat, will soon disappear. We shall soon see proof that the heat is increasing during the day faster than it is given off during the night. Indeed careful observation will show us even now that the quickening power of the sun's rays is beginning to be felt. The buds of the maples are swelling, and the catkins of the water willows are daily growing longer, and in the sunny nooks and sheltered places the crowns of the crocuses and violets are filling with sap, and pushing upward. Innocence and purity are always brave, and so these plants, sweet and modest as they are, fearlessly expose their tender and blushing petals to the biting winds and bruising sleet, in full faith that they will be cared for and protected. Life is awakening in the veins of many plants, and it is interesting to watch its growth and expansion,—the renewed fulfilment of the promise that "seed time and harvest shall never fail."

March should be a busy month. The *wood* has been hauled into the yard, and if it has not been already cut and split, this must be attended to. We cannot afford to burn green wood. The time and patience of the good wife is too precious to be wasted in coaxing green wood into a blaze. Let the wood be well split, and a plenty of dry wood for kindling be provided, and let it all be well secured from the weather. We all know how much the comfort of the household depends upon this. Some of us were brought up to pile large logs upon the hearth, but the cooking stove has changed all that, and we must be willing to cut the wood short and split it fine. It will go further and accomplish its purpose much more conveniently, the women, also, like it better, and this last is a sufficient reason, if there were no other. Your wife is a good house-keeper, and why should not she

be gratified? In connection with the wood-pile, March is the proper time to split the rails and posts that may be wanted, and to provide a good supply of stakes to repair fences and to be used in the garden. Bean poles and brush for the early peas may as well be provided while you are about it. When you want to use them your time will be more valuable.

The tools should be carefully overhauled and repaired. Have a supply of points for the ploughs, put the harrows in good order, and see that the hoes and forks and spades are in good condition. If they are not, provide new ones of the best pattern you can find. See that the chains and yokes and harnesses are in good order. The comfort of the horses and oxen requires this. A little forecast in these matters will save time and trouble by-and-by.

The cattle require at this season special attention. They have been living for three or four months chiefly on dry food, and are beginning to suffer for the want of something more succulent. Their vitality is somewhat reduced. Breeding cows and sheep especially should be carefully looked after. Do not let them suffer from lice, but attend to them at once, if they show indications of being infested with them. If you have kept your mangolds till now, begin to feed them out to your cows and sheep. They are just what they need at this season, and as they keep better than turnips, should be kept till the last. They grow better by age—more of the sap being converted into sugar as they ripen, like a winter apple or pear. If you have not roots to give your cattle a mess daily, give them at least once a day a mess of cut feed, that has been wet and mixed with bran or meal and a little salt, and laid twelve hours in the feed trough. We do not now speak of cows that are fed for milk, but of those that are being wintered for spring and summer use. It is of the utmost importance that they should come out vigorous and healthy in the spring. Their profitableness through the summer depends upon it.

As *breeding animals* become heavy they should be kept dry and warm and carefully guarded against accidents and violence. Many a fine cow is ruined at this season by a strain or blow from the horn of another animal. Cows worth one or two hundred dollars are too valuable to be exposed to rough or careless treatment. At the time of calving, they require special attention. High blooded and high kept cows are probably more subject to disease and difficulties in delivery than hardier animals that are not as well kept. Their udders should be watched for sometime before calving, as they are liable to fill with milk and inflame. If there is much milk in them draw it off daily with gentleness. If they are swelled and no milk can be drawn, bathe them daily with warm water containing a tablespoonful of saleratus to a gallon, diminish the feed, and give a handful of Epsom salts daily until the heat and tenderness is removed. An inflamed udder often causes a premature birth, from the sympathy existing between that organ and the uterus. Care bestowed upon animals at any season, and especially at this season, is always well repaid.

CO-OPERATIVE FARMING.—Last season we noticed the formation of a "Planting Company" in the manufacturing town of Easton, Mass., of which Mr. L. Smith was a director. As an acknowledgment of our good wishes for its success a certificate of a share in the profits of a certain field was made out in the name of one of the editors of the FARMER. Some time since we received our dividend in cash, but the note enclosing it was mislaid, and its acknowledgment has been deferred in hope it would turn up. As yet it has not done so, and hence the above apology. We should be glad to publish some account of the year's operation if our planting friends will pardon our carelessness and furnish a brief history of their seed time and harvest.

COFFEE AS A DEODORIZER.—A late number of the *Journal of Chemistry* speaks in high terms of the value of coffee as a deodorizer for the neutralizing of foul odors that emanate from organic bodies in a state of decay, as it can be used to advantage where other disinfecting agents would be inadmissible. In cases where rats die in the spaces between the floors of dwellings, the intolerable odor arising therefrom can be most effectually removed by placing a pound or two of fresh burnt and ground coffee between the floors. For the purification of a sick room it is incomparably superior to burning rags, as it has a beneficial chemical action on the atmosphere of the room, and gives besides, an agreeable prefume. —*Maine Farmer.*

BETTER CULTIVATION.

WE HAVE been struck with the earnestness with which the editors of the Western papers are calling the attention of their readers to the importance of better methods of cultivation to meet the fearful depreciation in crops which is taking place in the older portions of the grain States. Indeed they are beginning to inquire seriously whether they can much longer raise their own bread. Ohio, which used to export five or six million bushels of wheat per year, has imported ten millions within three years. Illinois will not much longer feed her population of two millions and a half, unless the fertility of her soil can be restored. But intelligent men are perceiving that it is only the surface of the soil that is exhausted and that there are yet in the soil, mines of wealth which deeper ploughing and better culture will develop, and a proper system of manuring will retain.

As the population becomes more dense farms will become smaller, cattle will be better fed and cared for, and manurial resources will be proportionally increased. In the mean time they must go below the surface for the needed supply.

In this connection we were much interested by a communication in one of our Western exchanges from Mr. Evans, Secretary of the Coles County, Illinois, Agricultural Society, giving an account of the result of premiums offered last spring, viz: for the best ten acres of corn $50; for the best five acres $25; for the best acre $10. There were eleven entries for the premiums. The best ten acres yielded 1066⅔ bushels; the second best yielded 1063½.

The first had been in meadow twelve years; was ploughed in the spring early, seven inches deep; harrowed thoroughly; planted three and one-half feet distant each way, with large yellow corn; ploughed five times with "prairie cultivator;" hoed twice; thinned to three stalks in a hill.

The second field was barley stubble, ploughed ten or twelve inches with three horses; planted two and one-half by three and one-half feet distant; cultivated three times with cultivator and once with shovel plough.

Another man raised 1050 bushels on ten acres; another 972½; and several others produced similar crops.

These statements go far to prove the benefit of a better cultivation than is usually given to the corn crop. They show that one hundred bushels can be raised by good cultivation even in an unfavorable year, and prove that diligent and vigorous stirring of the soil, instead of injuring it, develops its fertility.

A soil is surely worthy of good cultivation that will yield a hundred bushels without manure. So long as it will produce such crops, will it be benefited by manure at all? All it needs is generous cultivation at present. Manure would probably increase the stalk without a corresponding increase of grain. The time will come, and perhaps soon, when fertilizers will be required to keep up its productiveness, and they should be added as soon as the crops will bear them.

An Ohio farmer told us, a few years ago, that the difference between running the plough between the rows once and ploughing and hoeing thoroughly three times, was fifty bushels to an acre. By the first method, which was then generally practiced, fifty bushels were produced. By the second one hundred.

The population of Illinois is about twice that of Massachusetts, but her area is about seven times as great, to say nothing of the greater fertility of her soil and her more favorable climate.

We believe it would be as easy to double the present wheat crop by improved methods of cultivation, as it is the corn crop. Thorough ploughing and drilling in the wheat early in the autumn, so that it may make a stand that will enable it to resist the effect of the winter winds, will as surely give a crop of thirty bushels, as good culture in the spring and summer will ensure a hundred bushels of corn. Lime, and plaster and clover are important resources for wheat culture, and can be readily resorted to, where manure cannot be had.

It is to hoped that a better system of cultivation will long defer the time when we shall depend for bread upon the regions beyond the Mississippi.

For the New England Farmer.

THE GARDEN IN MARCH.

In our latitude, little outdoor labor in the garden can be done to advantage this month, as cold winds, frosts and ice prevail to a considerable extent. The most we can do to advantage is in preparation for later seasonable work, and this is equally important, and will often amount to more than actually ploughing and planting. In some very favorable localities it may do to prepare hot-beds, but generally April is soon enough for this. If a few pleasant days occur, do not be impatient to throw off winter protection of plants, vines, &c., for we shall have cold snaps, perhaps, to destroy such if unprotected. Recollect that it is not usually cold and freezing which injures plants, &c., but it is the change from freezing to thawing, and thawing to freezing suddenly, as stated heretofore.

The plant is made up of cells, through which the sap flows; each cell is separated from the other by a thin membraneous partition, and through this partition the sap finds its way from one cell to another till it reaches the extremities and the leaves, where it undergoes certain changes, and then descends through the alburnum or inner bark of the tree or plant. As it passes along in its downward course, substances are elaborated and absorbed into the structure which increase the size of the plant. Now if the sap begins to flow and is suddenly stopped, it operates similar to water flowing in a tube, where, if an obstruction is presented as the water flows along, there is a sudden strain on the tube, which, perhaps, causes it to burst, and thus renders it an imperfect conductor. In the case of the plant, the freezing, by expanding the liquid sap, bursts the partitions of the cells, and if severe, the ducts and cells are rendered imperfect conductors of the sap, and it takes the plant some time to recover, if indeed it ever recovers from the effects of such freezing.

Specific directions for the garden this month will be mainly a repetition of what has been given for one or two months past; instead of which I would refer the reader to the same, and ask, have they been followed? If not, I would urge him to lose no time in getting "a few turns ahead" with his spring work; and in the place of the regular calendar will say a few words about seeds, the time they retain their vitality, &c.

All will agree upon the importance of good seed, but all are not as careful in saving and procuring them as they should be. As there is great difference in the circumstances under which seeds are kept, there can be no positive data fixed as to the time they are capable of retaining their vitality. When, therefore, we see tables giving the time that seeds will retain vitality we are to understand that the natural requirements of such seeds have been complied with.

All seeds of vegetables should be kept in an even temperature, where they will neither dry up nor gather moisture, in ordinary paper bags, or in paper or wood boxes. How long they would keep if hermetically sealed, or so close as to exclude all circulation of air, is unknown, but undoubtedly many years would be required to entirely deprive them of all vitality.

Cucumber, melon, squash, and pumpkin seeds will retain their vitality ten to twelve years; and plants grown from the seed increase in fruitfulness for several years after being first saved, although they decrease in earliness of germination, as they attain age. Seeds that can be depended on only the season following production are, onion, parsnip, parsley, salsify, pepper, carrot, egg-plant, celery, summer savory, coriander, caraway, and sage. Other seeds vary from two to six years. Some writers regard beans of all kinds as sure to germinate only two or three years; but I have found no difficulty in keeping them and having success for four or five years. I have always found it safest, and would recommend others to purchase and plant *only fresh grown seed*, with the exception of those mentioned as improving by age.

WM. H. WHITE.

South Windsor, Conn., 1869.

GARDENING BY A WOMAN.

A widow lady of Boise City, California, has recently written several short articles for the *California Farmer*, detailing her experience and success in gardening. In her letter of November 5, she says:—

Have not I reason to sing and be glad? Only a little time ago the world looked so dark and dreary. Never can we forget the heart-ache and utter desolation of spirit we endured when calling at the dry good stores, book stores, and other places seeking employment as a saleswoman; all these applications were fruitless. One said, "We don't believe in woman's rights." We besought with tears a place to work at one-half the salary paid to young men. "Only take me on trial, I am sure I can try to please you." "No!" the answer came, "we should lose customers." Then, a woman's place is at home! What mockery! Home! yes, home, and yet not a home! because rent must be paid, wood bought, provisions, lights, everything,—and the active brain and strong arms that carried this burden were gone forever! No wonder thousands of woman are hurried on to swift destruction. Oh, that they knew the balm there is in the blessed sunshine and crisp frosty mornings, and the sweet satisfaction in sleeping, resting and singing, while the elements combine their powers to make her food grow. If old Ben Franklin and Prof. Morse were

made happy by chaining the lightning—making it subservient to their will—why should not every toiling woman be equally happy when she wakes up to the fact, that she can, by simplest means, take into her service the natural elements and compel them to grow for her own use, lucious fruit, delicious vegetables and golden grain?

Slowly we cry "Eureka! Eureka!" we have found it. We can earn bread and books, clothing and comforts, and many more luxuries than any working woman, or a dweller of cities. We can stay at home, play with the baby, do our own sewing, keep house, write letters, read papers, and entertain company, go out as often as I wish. In a word, feel independent, healthy and happy, no annoyance of seeking work, no temptation to under price a poor woman to obtain it, no time spent in collecting bills from house to house.

The fruit from our garden has been sold at remunerative prices. The larger number of purchasers came to the house with their own carriages after it. Ladies come from towns twenty miles distant to buy slips of roses and verbenas, and later in the season for strawberry plants. And after filling all their orders we have left for our garden 1507 plants, trees, vines and roses. Such busy days; even our little "birdy-pet" could toddle about and help a little.

This seemingly barren hillside, has in two seasons, given us a larger salary than has been paid to any woman teacher in the Union schools of the country.

NEW YORK WOOL GROWERS.

The annual meeting of the Sheep Breeders' and Wool Growers' Association was held at Syracuse, Jan. 27. The *Utica Herald* furnishes a report of the meeting. The attendance was large, more than thirty counties were represented. Dr. Randall, president of the association, gave an opening address.

Hon. Geo. Geddes, of Onondaga county offered a series of resolutions on the subject of a reciprocity treaty, which were unanimously adopted; H. T. Brooks of Wycoming county, who declared himself a radical free-trader, made some remarks in favor of their adoption. Although believing in free trade generally, he entertained the opinion that if there were any articles of importation eminently fitted to be made subject to duties, wool was one of them. The facts stated in regard to its cheap production in foreign countries, and the comparatively small expense of importations, sustained this position. He believed that the tariff had been a benefit to the American wool growers. He would support the resolutions, because he did not think it just that Canada should be allowed to send her products, untaxed, into the United States, and pour the entire proceeds of their sale into the coffers of England.

As these resolutions are somewhat lengthy we copy a portion only, as follows:—

Resolved, That the experience of one Reciprocity Treaty, should be sufficient to protect not only the farmers, but all other classes of our citizens, against the repetition of such a folly. In the year 1854, before the treaty was made, our government collected, in duties on articles from the Provinces now included in the "Dominion," the sum of $1,524,457. After the treaty was in operation, our duties so collected, did not average more than $75,000 a year, for the whole ten years it was in operation. In the fiscal year that ended in 1867, the treaty being no longer in force, our government collected $5,400,000 in gold on Canadian productions, and in the two years that have passed since the termination of the treaty we have collected about $15,000,000, in our currency, on the productions of the provinces, that have been imported into the United States. This immense sum has gone into the national treasury, and our taxpayers have been relieved by so much.

Resolved, that "under the present condition of our revenue laws, competition between the people of Canada and the United States can only be on equal terms, when duties equal to those directly and indirectly exacted by our government from her citizens are levied on importations, the product of Canada."

Resolved, That we respectfully protest against the making of any treaty, or other arrangement, by which the trade and commerce between our country and the British Provinces shall be placed on any other different basis than they are with all other nations and provinces.

Resolved, That we, as farmers, are entirely unwilling to be traded off in any treaty that has for its objects the promotion of commercial or other interests at our expense.

Resolved, That this association is opposed to any reduction of the tariff on wool by treaty or otherwise.

The following officers, together with the usual number of Vice Presidents and an Executive Committee were elected for 1869.

President—Hon. Henry S. Randall, Cortland Village.
Corresponding Secretary—E. B. Pottle, Naples.
Recording Secretary—H. D. L. Sweet, Syracuse.
Treasurer—A. F. Wilcox, Fayetteville.

The subjects of the annual Spring Fair, of rules to determine the best sheep, the scouring test, &c., were discussed.

—In the rich heavy lands of the West and on some of the clayey farms in New England, cow yards are often sad places for male or female to set down in and milk from one to a dozen cows. The *Ohio Farmer* recommends that such yards be paved with blocks of wood. Logs of any size may be drawn up during winter, cut into blocks of equal length, say six inches, and squared at leisure. After smoothing off the surface of the yard, lay the blocks as closely together as possible and fill the interstices with gravel.

For the New England Farmer.

THE MASSACHUSETTS AG'L COLLEGE.

The progress and success of this institution has very naturally awakened a good deal of interest not only within, but beyond the limits of this Commonwealth; because few States have had the courage to use the aid granted to them by the General Government for the promotion of education adapted to the mechanical arts and agriculture in establishing independent schools or colleges, and because it is expected that whatever Massachusetts undertakes will be well done.

A leading attraction with many attendants at the meetings of the Board of Agriculture recently held at Amherst was to see and learn more of our new college than can be gathered from mere casual reports. The result of this three days' acquaintance may be briefly summed up by saying that the work that has been done upon the farm and the college buildings, the examinations of the different classes, the drill in infantry tactics, and the general appearance and conduct of the students produced a favorable impression. Several prominent speakers took occasion to publicly give their hearty endorsement to all they had seen and heard.

The President of a Berkshire agricultural society stated that it sent a petition to the Legislature last winter for the abolishment of the Board of Agriculture altogether, upon the ground that it was doing little or no good, compared to the cost of maintaining it, and in the belief that the money could be used in some other way with better results; but he was glad that petition was not heeded by the Legislature, for with the evidences which the past few days afforded, he was satisfied the Board was doing a good work, and that opposition to it arose chiefly from an imperfect knowledge of what it really was doing.

Prof. Agassiz said he had always favored connecting the agricultural school with some other college already in existence, as he feared if it was established as an independent institution it would be merely an imitation of the other colleges, of which there were already so many in the State that he had favored concentration instead of increase in their number to secure their greater efficacy; but seeing that the college had marked out a distinct course, and was taking an independent stand by adhering strictly to the objects for which it was designed, he would frankly admit he was not sorry his plan of annexation did not prevail; he only wished now the college had the money and professors requisite for carrying out promptly all its plans.

Thus the questions which have been agitated so long in this State, concerning the best methods of promoting agricultural education have been settled, at least for the present, and an agricultural college has been commenced, and men who entertained divers opinions are gradually coming round in its favor, and it only remains for the farmers throughout the State and our liberal patrons of the sciences to give it a cordial and generous support, to secure an institution second to none in the State for usefulness.

It may surprise some to hear that the college has many immediate and urgent wants. An impression is somewhat prevalent that it is to receive constant help from Amherst College. To a limited extent this is true; the latter has extensive libraries and cabinets of great value, but these can only be occasionally used or consulted. The plan of sending a class of fifty a mile and a half through mud and snow, and in all kinds of weather, for a place and means to properly conduct a recitation in chemistry or philosophy, as was done last year, is simply absurd. With equal propriety might a farmer always depend upon borrowing of his neighbors the tools and newspapers he wants in his daily work. Such a system of borrowing and begging is not consistent with the training model farmers are expected to receive. The Agricultural College should own all the books, apparatus and everything necessary for daily work and all ordinary occasions, and have them always near at hand in their own buildings. For one, I do not see how the old college can materially lessen the cost of the new one. Every college requires about the same outlay for buildings and endowments to put it in tolerable working order. Therefore if there is a loud call for help for a few years, it will accord perfectly with the natural course of events.

One want which will be made public presently cannot fail to commend itself to thinking men,—that is a department of veterinary art, with a competent instructor. The intimate connection between the health, quality and quantity of farm stock, and the cost of our own living, health and happiness is too apparent to require any illustration. The attainments of the present so-called cow and horse doctors, generally speaking, are entirely beneath the intelligence and good sense of our people; their remedies and methods of treatment are harsh, nay cruel and nonsenical in the extreme. The society for the prevention of cruelty to animals would find an interesting field for investigation, if they looked after their treatment in sickness as well as in health. If they see the defects of the practice, they would at once aid in establishing such a department. It is not expected that every student will become a professional practitioner; but the graduates when consulted in a case of sickness or accident to our dumb animals, ought to be able to give an intelligent answer, and suggest a merciful remedy.

Another want is a building for an armory and drill hall. Instruction in infantry tactics is required by the conditions of the grant from Congress. By having a commodious drill hall it is proposed to give special attention to drilling in winter and wet weather, and so omit it

altogether on pleasant days when farm work presses. Whatever may be the precise value of the knowledge of military affairs acquired here, the time given to drilling will be well spent if it gives to the students an erect figure, well developed chests, teaches them how to walk, to be easy in all their movements, to be careful of their dress and to think more of personal appearance; for in all these particulars hard working farmers are inclined to be sadly at fault.

A third immediate want is money to pay the students for their work. Every college has some way for assisting needy students. Amherst has a fund of $100,000, called a "Charity Fund." Many who will come to the agricultural college will be unable to pay for their education. Such desire to work and receive help, if it may be so called, in payment of services rendered, instead of receiving it as a charity. In the present condition of the farm there is no income to pay for the regular work and permanent improvements at the rate they should be carried forward. It is extremely desirable that a fund be created at once to meet this deficiency, and our benevolent citizens, who really have at heart the rapid progress of their native State in all that is useful, will find an excellent opportunity to lend a helping hand. Money thus given effects a two-fold object—it assists the college and the students themselves. Young men who prefer to work rather than beg or to be indifferent and passive recipients of charity, may be ranked with those who make a good use of an education.

Other wants are apparent to every visitor. Work to be done meets the eye in whatever direction we turn. It is time the necessary buildings for a model farm were erected, or at least begun. It is time some progress was made in setting out trees and shrubs, both fruit and ornamental; in collecting tools and implements and in stocking the farm with desirable animals. The trustees have been in the possession of the farm four years, and people begin to look for some results beside removing old fences and buildings, tearing up bushes, decaying trees, &c. It is time there were residences upon the farm for the President and all the Instructors, and thus throw around the students greater restraint, more of home influence, and impart a social aspect to their life, which now is purely the dormitory or barrack style of living.

These are some of the wants, and it is true it will require a large outlay to meet them, and yet not a large sum compared to the interests they are designed to advance. Once supplied they have a permanent value; they become part of the real estate. The success of the college depends upon them. If it has not the means to rise above a first-class high school, with an ordinary farm attached, it can never command the patronage of our farmers; for they will not send their sons away from home to school when their own town or county offers the same advantages. But give the College the means to take the stand it ought, and its superior advantages will draw thither young men from all parts of the State. It is looking to the lovers of the sciences and the liberal patrons of agriculture for aid. It has assumed the name of the Commonwealth and may justly be regarded a State enterprise, and shall it receive less from a generous public than the other colleges? N. S. T.

Lawrence, Mass., Jan. 15, 1869.

Remarks.—It might have gratified the curiosity of some of his readers had our correspondent given an estimate of the cost of supplying all the "many immediate and urgent wants" of the Massachusetts Agricultural College, to which he has alluded.

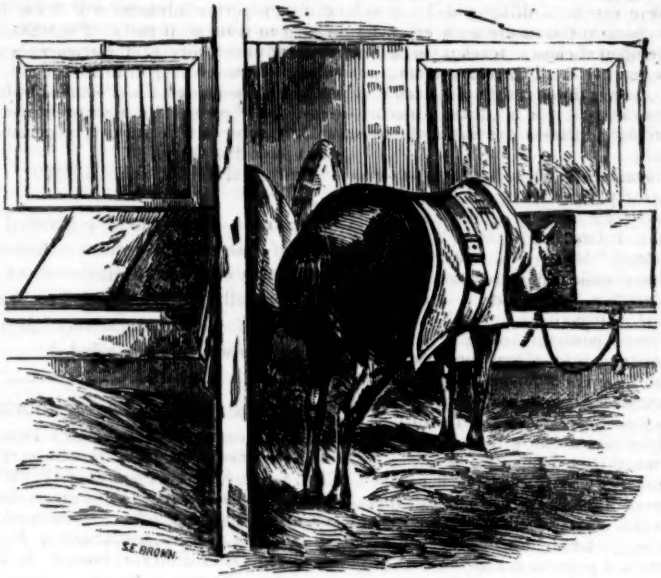
OFFICERS OF ME. AG'L SOCIETIES.

Androscoggin.—Hon. Rufus Prince, Turner, President; E. Ham, Lewiston, Trustram Hill, Greene, Vice Presidents; W. R. Wright, Lewiston, Secretary; D. Farrar. Lewiston, Treasurer; James Clark, Lewiston, Agent; E. P. Tobie, Lewiston, Librarian; J. B. Ham, Lewiston, J. R. Pulsifer, Poland, J. K. Piper, Lewiston, Augustus Sprague, Greene, J. B. Jordan, Webster, B. L. Townsend, Auburn, D. B. Strout, Auburn, Trustees.

West Penobscot.—President—E. F. Crane, Kenduskeag; Vice Presidents—S. D. Jennings, Garland, F. W. Hill, Exeter, Chas. Shaw, Dexter; Secretary and Treasurer—T. P. Batchelder, Kenduskeag; Agent and Librarian—David Barker, Exeter; Trustees—M. M. Hodsdon, Kenduskeag; Jacob Eastman, Exeter; Sylvester Eddy, Corinth.

East Kennebec.—President—Isaac Hamilton, China; Vice Presidents—H. C. Hamilton, D. W. Tyler, China; Secretary—H. B. Williams, China; Corresponding Secretary—J. F. Chadwick, China; Treasurer—Wm. Percival, China; Trustees—John Reed, Zenas Percival, David Malchom, China; Horace Colburn, Daniel Vining, Windsor; Warren Percival, Vassalboro'; V. R. Turner, W. S. Greeley, Palermo; C. B. Wellington, Albion; Levi Turner, Somerville; J. G. Cummings, Liberty. —*Maine Farmer.*

Bees, to be prosperous in the spring, should be well wintered. Every person owning bees should be well acquainted with the condition of every stand every month in the year. If you have not done so before now, turn up every stand and ascertain its condition. A little attention may save much, and make your bees prosperous in the spring.—*Bee-Keeper's Journal.*



PREVENTION OF CRIBBING.

Crib-biting is a very annoying and injurious habit, and one that has been decided by the English courts to constitute legal unsoundness. The horse lays hold of the manger with his teeth, violently extends his neck, and then after some convulsive action of the throat, a slight grunting is heard, accompanied by a sucking or drawing in of air. The teeth are often worn away and injured by the operation, and horses addicted to this habit are said to be much more subject to colic than others. Muzzles, neck-straps, and lining the edge of the crib with iron, sheep-skin covered with tar, aloes, and other unpleasant substances have been tried with more or less success.

Sir Peter Laurie of London devised the plan illustrated by the above cut, which in his case proved efficient. Our cut was copied from the *Illustrated News*, in which paper he made his process public.

It consists in preventing the animal from seizing the manger or any other object while tied up in the stable, by boarding over the space, as shown at the left, between the bottom of the hay-rack and the outer edge of the manger, forming a steep inclined plane. Portions of the boards or covering can be partially removed, as represented at the right, to enable the horse to eat at stated times.

The causes of cribbing are not well understood. Mr. Youatt suggests that it is sometimes induced by dressing horses in the stable, when they catch at the edge of the manger or something else within reach, and thus form the habit of laying hold of these things on every occasion.

IRRIGATION IN WINTER.—The popular idea that irrigation is good only for growing plants is erroneous. Water has a very important action upon any soil where there is good drainage, and makes the inert matter available for plant food. In the most successful case of irrigation that has come under our notice the water is kept running through the winter. The freezing in severe weather makes a complete covering of ice, which acts as a mulch. The grass starts early in the spring, and the crop is kept up to two tons to the acre, without any other fertilizer than water. There is a mine of wealth in every brook that can be turned upon a dry soil, if the farmer will work it.—*Rural New Yorker.*

SALTING GRUBS.

A correspondent of the *Lansing, Michigan, Republican*,—"S. H."—probably our friend Sanford Howard,—very justly criticises the little paragraph in the FARMER, Dec. 12, about killing grubs with salt. The writer objects, in the first place, that the term "grub" is too indefinite, as the word is applied to the larvæ of various insects. In the second place, no part of the field was left unsalted, to see what would be the difference between ground salted and unsalted; therefore it is possible that the disappearance of the grubs was the result, not of the salt, but of some other cause. Insects appear and disappear in a very mysterious manner, and "in cases where substances are applied to destroy them when they are nearly ready to pass into the pupa state, their sudden disappearance leads superficial observers to conclude that the application has destroyed them, when in fact it has had no effect whatever."

In this case, the writer doubts whether the salt had any effect upon the worms, and says:

To test the efficacy of salt for the destruction of "grubs," we have applied much larger quantities in proportion to the surface, in boxes in which cut-worms, wire-worms, and other species were placed, without the least injury to the worms, some of which passed into the pupa or chrysalis state, to all appearance in perfect health.

Ignorance of the habits of insects probably leads to many wrong conclusions in regard to the effect of substances applied to destroy them. It is not always known that they stop eating when they have reached the full period of their larval stage, and generally pass out of sight.

The lesson to be drawn from these cases, is that the science of entomology should be studied by every person who has anything to do with the farm or garden. A better knowledge of natural history would prevent the occurrence of many ludicrous and serious mistakes; would save the expense and trouble of applying useless nostrums for preventing the depredations of insects, or for destroying them, and teach the best methods of preventing their ravages.

In this connection we would recommend a work now in course of publication, entitled, "A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops, by A. S. Packard, Jr., M. D., Salem, Mass." The work is well illustrated, and is sold in regular numbers, at 50 cents each.

RECIPROCITY AT THE WEST.—In a letter to the editor of the *Ohio Farmer*, R. M. Montgomery, Esq., a leading farmer of that State, says:—"The first we know, the morning papers will announce the ratification of a 'Reciprocity treaty' with Canada, and then—good bye to the growth of combing wool in the States, and (by sympathy) good bye to the profits of wool growing in general. And as this is but the 'beginning of the end'—good bye to the arrangement of a compromise tariff between the growers and manufacturers. In short—good bye to any effective wool tariff, and hail to a free competition with Mestiza wool."

VERMONT STATE SOCIETY.

We learn by the Bellows Falls *Times* that the annual meeting of the Vermont State Agricultural Society was held at that place Jan. 5, 1869.

Hon. Joseph Colburn, of Springfield, presented resolutions against the re-establishment of the recently abrogated treaty with Canada, and they were adopted.

The following officers were chosen:—

President, Henry Keyes, of Newbury.
Vice Presidents, H. G. Root, Bennington; H. S. Morse, Shelburne; W. R. Sanford, Orwell; Crosby Miller, of Pomfret.
Secretary, Henry Clark, of Rutland.
Treasurer, J. W. Colburn, of Springfield.
Directors. Edwin Hammond, Middlebury; Elijah Cleveland, Coventry; Geo. Campbell, Westminster; Henry Hayward, Rutland; John Gregory, Northfield; N. B. Safford, Hartford; Henry B. Kent, Dorset; Lawrence Brainard, Jr., St. Albans; David Goodell, Brattleboro'; Edwin S. Stowell, Cornwall; Jas. A. Shedd, Burlington; Henry Chase, Lyndon; Geo. A. Merrill, Rutland; C. Horace Hubbard, Springfield; S. G. Holyoke, St. Albans; L. S. Drew, Burlington.

Edwin Hammond was elected the member of the executive committee of the National Wool Grower's Association of Vermont.

An address was delivered before the meeting by the retiring President, Hon. John Gregory, of Northfield.

For the New England Farmer.

NEW HAMPSHIRE FARMERS' CONVENTION.

Acting upon the advice you have often given to the readers of the FARMER to visit each other's farms, and to attend fairs and discussions whenever possible, I was present at the recent gathering in Manchester to learn something about New Hampshire farmers and their agriculture. I will not attempt any report of the various lectures, supposing you will receive one from another source, but send a few thoughts suggested by the occasion.

The Convention was well attended by an intelligent and appreciative audience. The lecturers were earnest men and manifested a deep interest in their various specialties, and generally came to the subject assigned without useless apologies or time-wasting preambles. The managers, in assigning so many topics for two day's work, displayed a prominent characteristic of New England farming,—that of attempting to cultivate a large farm with a small capital. Of course, no one could be thoroughly discussed. A spirited discus-

sion in such meetings is often the most interesting part, and when so many men of ripe experience are assembled, there should be opportunity for them to join in it.

But the Convention as a whole, and for a first one, was a success, and there was a universal desire that there might be many similar ones in the old Granite State. The club, whether town, county or State organization, is a powerful means of disseminating information and awakening an interest in agriculture; and winter is the best time for conducting it. The efforts which have been made for introducing discussions at the Fairs have been feebly supported. The attendants on those busy occasions manifest no disposition to engage in serious discussions; indeed it is difficult to gather a quiet and attentive audience of respectable number to listen to the regular address. The club must be supported, independent of the fair, and when prominent men, like the lecturers on the present occasion, or at the recent meeting in Amherst, Mass., are to take part, it does pay to drop all care and work and go a long distance to hear them. Newspaper reports do not always convey an adequate idea of what is said and done, even if the lecture is given in full. There is pleasure in seeing the speakers, hearing the words as they are uttered, and listening to the private talks and discussions, and the acquaintances one makes are often of great value. Since the Lyceum and political gatherings are so popular, it is difficult to see why farmers' meetings are not better attended. Some of these addresses contain more thought and are of greater practical value than many popular Lyceum lectures for which from fifty to one hundred and fifty dollars is willingly paid.

The lecture of Col. Lang upon "Raising of Horses" was a treat to all lovers of the equine race. He gave the principles and rules now generally received and adopted by the prominent raisers of horses in a manner that showed he felt the force of every word uttered, and interspersed just enough of his personal experience to convince the hearer that a practical man, and one who thoroughly understood his subject, too, was talking. It had cost the Colonel many years of study and observation with a large expenditure of money to arrive at these conclusions. If the horse raisers of New Hampshire can obtain all this mature and desirable experience by merely travelling the length or breadth of the State and back again, it is cheaply bought. The principles he advanced were also in the main applicable to the breeding of other domestic animals.

The remarks of Dr. Boynton were consoling to desponding sheep raisers, for he plainly showed that sheep are an economical and profitable part of farm stock, and that our New England hills are particularly adapted to producing a superior quality; that the present depression of the business is owing not to the sheep themselves but to the errors of men in not selecting the right kind for their particular locality and to the crooked and perverse legislation of our politicians.

No one could listen to the paper upon "Fish Culture" without wishing he owned a pond or brook, which he could immediately stock with those desirable varieties once so abundant in our waters. At present the profits in this business are very large, and an acre of water can be made to yield more than an acre of land.

The discussion upon corn was very interesting and clearly proved that with good culture it can be raised here for from fifty to seventy-five cents per bushel. Do the average of Western farmers find a wider margin for profit?

I was surprised that the testimony in favor of phosphates was so general, but while all advocated their use, they admitted that the greatest frauds were practiced in the manufacture and sale of this special fertilizer, and it was proposed that legislatures should take measures to prevent this species of cheating. I doubt, however, if in the present state of society, legislation can entirely correct the evils complained of. A better way is for farmers to manufacture the articles for themselves, either upon their own farms, or, what would be more economical, form associations or companies, where, under the supervision of some competent and reliable person, the demand of one or more counties may be supplied. By a careful study of the soil of that locality, just the article needed could be made. A company formed near Portland, Maine, upon this principle, has succeeded beyond all expectation

Much might be said in favor of every lecture, but I hasten to notice a subject incidentally alluded to by one speaker,—the present condition of the agriculture of the State. The great emigration of the native born citizens is well known; it has been carried to so great an extent that the increase of population from 1850 to 1860 was only 2.55 per cent. This increase is found chiefly in villages and cities. The rural districts have lost in two ways; one from the removal of whole families westward, the other from young men and women leaving the farm for other pursuits. It can hardly be expected that agriculture could advance much, if any, with such a drain on the youth, energy and strength of the population, and we find that during the same decade the increase in wheat was 53,308 bushels; in barley 50,847; in oats, 355,832; in buckwheat, 24,701; while in rye, there was a decrease of 54,869; in corn, 159,042; in potatoes, 167,476 bushels; likewise there was a decrease in hops of 126,946 pounds; in cheese, 964,471; in butter, 20,292. The returns of stock show an increase of horses, 6,868; of cows only 603; a decrease of oxen 7512; increase of all other cattle 3469, making for all neat cattle an actual loss of 3440. In sheep there is a decrease of 74,222, in swine 11,552.

The agricultural part of the population were in no condition to well sustain the effects of the war with its attending high prices. The scarcity of labor and increased cost of production was a great inducement to cultivate less land, hence farming operations were materially curtailed. The estimates of the statistician at Washington shows that the State has not to-day, except in sheep, as much stock as in 1860. They likewise show a steady increase in wheat and oats and a heavy falling off in all other crops. Judging from these estimates the census of 1870 will show the quantity of products to be about the same as in 1850, though there may be decided improvement in quality. There has never been a better sale of produce than during these twenty years; home markets have improved, and the numerous lines of railroads which have been built have given greater facilities for reaching Boston and other markets. The number of farms for sale, and which can be bought for less than the buildings and fences are worth, is surprising. Thus it will be seen the progress of agriculture is slow in the old Granite State—there is even danger of a retrograde movement. What is to be done? Col. Clough struck the key note for action, when he said the aid of the legislature must be invoked. Since farmers constitute the majority of her voters; own the bulk of the property, and have the largest share of the taxes fall upon them, whatever they may ask of the legislature they can have. N. S. T.

Lawrence, Mass., Jan. 2, 1869.

For the New England Farmer.

CUTTING TIMBER FOR DURABILITY.

In your issue of the 2d inst., you ask for opinions as to cutting of timber at different seasons of the year. For one, I am strongly of the opinion that, for all soft or evergreen timber, from the 15th of May to the 15th of August is the best.

And in proof of the statement, will relate an incident that came under my own observation. On the afternoon of the 3d of June, 1861, a company of young men cut a very nice spruce, not large nor high, only 66 feet, and of good proportions, peeled and raised it where it stands to-day, as sound as when it was first cut. I know this to be the fact, as one day last summer, in company with others, I dug around the bottom and found it sound.

I also can show any one that wishes to see with his own eyes, balsam poles that were cut and peeled and laid up in fence in June, more than fifteen years ago, that are sound to-day; while others that were cut early in spring, and not peeled, and have not been on the fence more than half as long, are quite rotten.

One gentleman says he would leave the bark on, so as to keep it moist. I would take it off for the purpose of letting it dry. For more than twenty years I have been obliged to support a farm bridge over Brown river, and have helped put on stringers, always hemlock, at different seasons of the year, and remember of putting on two that were cut in winter—we did not take off the bark—and they lasted only four years; while now I can show some that have been on twelve years, that were cut the 18th day of August.

It will take but little time or trouble for any one to make a trial of cutting timber, if they will only go at it; that is the hardest part. Almost all farmers are obliged to cut sleepers or the like for their stables, and if they do not find that the dry timbers for such places are the best, then their experience is far different from mine. I think that it can be clearly shown that hemlock, when used where it is damp, will last three times as long if cut and peeled in June and allowed to dry one year before it is put in place.

I did not mean to say but a word about the article alluded to, but it was so different from my own convictions of right, that I could not refrain from speaking. E. J. Buttolph.

Essex, Vt., Jan. 5, 1869.

For the New England Farmer.

BEST TIME TO CUT TIMBER.

In the Farmer of the 2d inst., you ask the experience of your correspondents with regard to the best time to cut timber. This is a very important matter in our country, where timber is becoming so scarce and the demand for the different practical purposes of life are so rapidly increasing, and it is worthy the attention of the economist, if the best time is not already known, to ascertain when it is.

In our experience, which has been of many years, we have found that the more rapidly timber seasons in the open air, the greater will be its duration. Hence, timber cut in June, when the days are long and warm and the force of evaporation is great and rapid, we have found to be the heaviest after seasoning and the most durable.

But the general force of evaporation is not the only cause of rapid seasoning at that season; for then, as every one familiar with timber knows, the bark is easily separated from the wood, and by removing it, we expose all parts of the surface of the timber equally to the action of the atmosphere, and of course, being operated upon in all its parts, it seasons through more thoroughly.

Take, for instance, the chestnut, which has become one of our most valuable timbers, and when it is cut in June and stripped of the bark, the sap wood, which rots soon cut in any season with bark left on, becomes hard and lasts for years.

We have found also that timber which is cut when the sap flows most freely, say in the freezing and thawing days of spring, possesses the least vitality and is most liable to rot. Then, too, the bark adheres closely,

which in a measure prevents the evaporation of sap; worms find their way to the wood and injure it, and what is termed "powder-posting" often results to the serious injury of the wood.

But there are other considerations in the case, equally important with the durability of the timber. The preservation of the forest is no less important than the durability of its productions. And here nature furnishes a wise provision to effect both objects, for it is a fact that the seasons most favorable to cutting timber for durability are also most favorable to its reproduction. The chestnut and other trees which are reproduced by sprouts from the stump or old roots send up vigorous growths from stumps of June-cut trees, and also when trees are cut in early winter. Where heavy bleeding from the stump follows the cutting down of the tree, the vital energy of the roots appears to exhaust itself more than at other seasons, and in many instances no sprouting up follows. This is eminently the case where timber is cut in February, March and April. If we wished effectually to clear a field of wood, we would by all means remove the timber during these months.

WILLIAM BACON.

Richmond, Mass., Jan. 4, 1869.

For the New England Farmer.

HOW SHALL WE IMPROVE OUR FARMS?

One tells us to keep stock, another to buy commercial fertilizers, another to make compost, and another to plough in green crops,—each and every one contending that his method is the shortest and most economical. Now, how many of these theorists know whereof they speak; or, in other words, have figured the exact cost of their favorite methods?

In the case of the commercial fertilizers, it is very easy to get at the cost, but with the other methods it requires time and much care with some figuring to bring worn-out land to a state of fertility; and when done to know what it has cost. Now I do not profess to be able to do this, but I have been at work at it for the past ten years and have kept as close an account as possible under the circumstances.

Ten years ago I purchased thirty acres of worn-out land. The soil a slaty loam, and so thoroughly worn out that one field of five acres gave only four bushels of rye to the acre the previous year. I decided to try ploughing in clover on the piece, if I could get enough started to plough in. In the spring of 1858 I ploughed and harrowed, then sowed fifty pounds of clover seed, and bushed it in. In the latter part of May I sowed five hundred pounds of plaster, costing $2.00; ploughing and harrowing cost $15.00; clover seed $5.50; labor, sowing, &c., $2.00,—total for the first year of $24.50. The clover came up very well, but did not make much growth, and about one-third of it winter-killed. The remainder started in the spring and made some growth, about enough, my neighbors estimated, for half a ton of hay to the acre. The last of June I ploughed it under, and in September ploughed again and sowed one bushel of rye to the acre. The cost this year was the clover crop, one-half ton hay to the acre, two and a half tons worth $20.00, less one-half for harvesting, leaves $10.00; five bushels of rye $5; labor $17.00,—making $32.00 the second year, and with the expenditure of $24.50 the previous year, a total of $56.50.

The next spring sowed fifty pounds of clover seed, $6.00; five hundred pounds plaster, $2.00; harvesting and threshing rye, $17.50; total for this year, $25.50, or $72.00 for the three years' cultivation. I had now a crop of thirty-five bushels of rye, worth $35.00, to deduct from former indebtedness, which leaves it $47.00.

The next summer the clover was estimated to be equal to a ton of hay to the acre; allowing one-half for harvesting, it would be worth $20.00; this was ploughed in and sowed to rye, one and a half bushels to the acre, $7.50; labor, $17.00; making a total of $44.50 for the year, and $91.50 for whole four years. Sowed clover in the spring as before, also plaster at a cost of $9.00; harvesting, threshing rye, &c., $22.00, making $31.00 for the fifth year, or $122.50 for the whole. I had fifty-six bushels rye, which, at $1.30 per bushel, amounted to $72.80, which reduces the expense to $49.70.

The sixth season went through with the same formula with a cost of $60.00, increasing the expense to $109.70. The seventh year the expense was $42.00, and the income ninety bushels of rye at $1.65 per bushel, making $148.50, which lacks only $3.20 of making the account even.

The eighth year I mowed two tons of good clover hay to the acre, worth at that time $15.00 per ton, or $75.00 for the half of it, allowing one-half for harvesting, which is more than is customary in many places.

I have thus brought the land from four bushels of rye to the acre to eighteen, and from half a ton of hay to two tons, by the use of nothing but plaster and clover, and in the eight years have made it pay all the expense of doing it, except the interest and taxes, and at the present time it has paid up all those and a little to spare.

I paid $20.00 per acre, but this same land in its present condition would have brought $50.00 per acre at the time I bought it. It will now bring $80.00.

This piece of land was remote from the barns, and so situated that it was very difficult to get barnyard manure to it. Now the question arises, can one buy a worn-out farm, run in debt for part of it, make a living, pay his interest and taxes, and bring it to a good state of fertility by ploughing in clover with a

prospect of ever getting out of debt? I answer, that according to my experience, it would be up-hill work and require a lifetime to do it. Better buy good land and pay double or thribble for it, and buy less. But the man who owns such land and is clear of debt can permanently enrich it in this manner; but whether he can do so at less expense in this way than in some other remains to be seen. Hereafter we may discuss the cost of other methods. J.

Oak Hill. N. Y., Jan., 1868.

For the New England Farmer.

PLOUGHING,---SEEDING,---HARROWING.

WESTMINSTER, VT., FARMERS' CLUB, Jan. 11, 1869.—*Topic*—"Preparation of the soil for the reception of agricultural seed, best kind of seed to be used, and the mode of cultivation until matured."

Mr. Geo. Metcalf. I believe that in ploughing, the wider the furrow, if well turned, the better for the crop, leaving the sod less liable to be turned up by the harrow, more nicely mellowed and pulverized, and preventing grass getting so much the start at first hoeing.

E. Lord. I am satisfied that the narrower the furrows the better, even partly set up edge ways. The "Eagle Plough" will do it. Plough about eight inches wide and four deep for corn, when the manure is to be turned under, and the next spring plough the same ground six inches for sowing. I don't like flat turning.

Octavius Fisher. I endorse Mr. Lord's depth of ploughing. I use the "Cylinder Plough" No. 1. Furrows some ten inches wide.

W. R. Kimball. I recommend the "Telegraph Plough" No. 3, manufactured at White River Junction, Vt., not only for the execution of the work, but ease of draft, as the plough for our locality.

Austin Goodrich. I would like to inquire if fine tooth harrows pulverize the soil better than a medium number of teeth.

Mr. Lord. Not if the coarse tooth harrow is more often applied.

Austin Goodrich. I would recommend the sowing of cereal grain in drills. I have observed in the West that where sown in drills it did not lodge as badly.

Mr. Fisher. I am confident that corn sown in drills would produce a larger crop than in hills, but in this "witch grass" section might be more labor to cultivate.

M. W. Davis. In this "witch grass" region I would turn the furrow in ploughing as flat as possible, and in reference to the use of the old straight tooth harrow, I had the presumption, if you may so call it, two years ago, to tell these farmers that these harrows were going out of use; that the effect of their use was to pack and make solid the land; whereas we wanted something to loosen, throw up and leave the soil light, on the plough and cultivator principle.

Robert Farr. In selecting seed corn I would have it eight-rowed, firmly packed on the cob; the butt end of the cob no larger than the tip, or not much, and plant all the kernels that grow upon the ear. Would not object to shelling it in "corn-sheller." The "Holden Corn," the variety used mostly here, is the best I know of.

Mr. Lord. I discard the kernels from both ends of ear, and plant the middle. My corn fills out well. I think *manure* plenty makes corn fill out well.

Mr. Goodrich. I plant a kind of corn produced by mixing the Holden and a longer-eared eight-rowed variety I obtained from Brandon, Vt. Many of the ears are twelve to fourteen inches long, well filled out. The first of this month I marketed some, and it weighed 63½ lbs. to the bushel. I hill up and get a better crop than when I kept the ground level. Hilling up corn endorsed by all present, though contrary to former practice.

Mr. Kimball. I recommend sending to the North part of the State for seed corn, oats, and timothy seed, occasionally, but I would send down South for clover seed, getting a smaller and earlier variety, producing a sweeter kind of hay. I have experimented with phosphate and with good results,—fodder stands up better.

Mr. Lord. The trouble in using phosphate is people are not careful in keeping it from the roots of corn. I would sow broad cast.

Chas. Nutting. I have used phosphate and had rather have so much manure. Same subject continued. M. W. DAVIS, *Sec'y.*

Bellows Falls, Vt., Jan. 12, 1869.

REACTION IN THE SHEEP TRADE.—As certainly as the sunrise always follows the setting of that luminary, so surely will there be a rise in the price of sheep ere long, and in all probability it will be a healthy, steady and lasting one—at least, it will only vary with the rise and fall of other agricultural productions. City people have commenced to use mutton to vary with beef, pork, &c., so that the demand will be regular, as butchers will feel compelled always to have some on hand, and those who supply the best families must have good quality; consequently "mutton sheep," as they are sometimes called, will be in request.

This is the time for "long-headed" men to consider the subject and take advantage of the low price of store sheep, for besides the demand for the supplying of the regular market, there is beginning to be felt a conviction among enlightened men that sheep are really necessary on farms of respectable dimensions, to assist in keeping up the fertility of the soil, which knowledge will soon make good flocks the rule instead of the exception, as is the case through the country now.—*Co. Gen.*

USES OF GUANO.

GUANO, once so popular among us as a fertilizer, is now comparatively little regarded. And yet, when its employment is properly understood, and when obtained at a fair price, we are far from believing that its use is never economical. The evidences of its great power in producing crops are abundant and well authenticated. A certain amount added to the soil of the garden, and especially where root crops are cultivated for stock or market, such as parsnips, sugar, turnip or long blood beets, or carrots, would frequently double the crop. In such cases it is important that the crop should be as large as it is possible to make it, because the cost of getting the soil into suitable condition, by repeated ploughing, pulverizing, high manuring and tending, is large, and the value of the crop should be in proportion to the cost of making it.

When all the manure has been put into the soil of a field devoted to any of the crops mentioned, or into the garden, that can usually be spared, an expenditure of five to ten dollars per acre in genuine guano, would be very likely to add several times that amount to the value of the crop. If the crop were of the cabbage family, some other fertilizer, superphosphate of lime, for instance, might be better.

On a good granite soil, or on a rich, sandy loam, well drained, made fine and deep by ploughing and pulverizing, highly dressed with green manure in the fall and ploughed under the surface three inches, we have no doubt that from 800 to 1000 bushels of carrots may be got from an acre of land if 400 lbs. of pure guano is applied at the last harrowing before the seed is sowed, and the crop is well tended.

"It is only some thirty years since this fertilizer was first introduced to notice in this country," says a late English writer, "and now there is an importation into this country of about one hundred and fifty thousand tons. Few fertilizers ever did, in so short a time, attain so high a degree of popularity, or produce such significant results. In Scotland it has been perhaps more extensively used than in any other portion of the United Kingdom. The farmers in some sections of that country, practice manuring on a most liberal scale; and in one county, that of East Lothian, it has been estimated that about five dollars are expended for fertilizers for every acre of the cultivated land. Of guano, about $10 is frequently applied to a single acre."

In the Journal of the *Royal Agricultural Society*, an instance is recorded where a piece of rather poorish soil was manured with this quantity, and although about *five dollars* per acre was paid for *annual rent*, the augmentation of produce caused by the application was found fully to justify this liberal expenditure.

On land not exhausted, the effects of guano are not so apparent as on soils which have had their productive energies severely tasked; yet, even on soils of this description, it is by no means without visible effects. Poor soils, or naturally good soils that have been heavily cropped, are the most benefited by its application, and if from two to three hundred pounds to the acre be allowed, a fair crop of almost any kind of grain or vegetables may be relied on. And this ought not to cost, besides the expense of applying it, more than five or six dollars.

The effects of guano are not permanent—little if any benefit being derived from it the second season; and the same is the case with most concentrated or special manures. They act promptly but not permanently, and impart no constitutional improvement to any soil, unless the inorganic constituents may be regarded as tending to that result. The phosphates, &c., found in the mass cannot, considering the limited quantities in which they are used, produce any appreciable results on any soil for years, certainly, if they ever do so.

Many persons have applied guano without noticing any good results; so they have manure from their stalls,—but that does not prevent them from applying the latter again. We do not urge its indiscriminate use; but that there is great value in it, we have no doubt, and hope it will not be entirely abandoned. Its sale is a monopoly which we hope will be "crushed out," so that it may be obtained hereafter at fair prices.

—The Berkshire Agricultural Society has voted to abolish all premiums for trotting horses. It has also instructed its executive committee to take measures to protect farmers against imposition in the purchase of commercial manures.

WOOL-GROWERS IN DANGER.

The Wool-growers' Association of the State of New York is to hold its annual meeting at Syracuse, January 27. It appears to us that there are good reasons why every Wool-growers' Association in the land should meet and consult upon the woollen interests of the country. Indeed, we regard the questions of fine wool and coarse wools, of the winter or summer management of flocks as altogether secondary to those pertaining to the present duties on wool, to the proposed reciprocity treaty, &c. We fear that wool-growers are settling down into inaction with the belief that the wool business, having been long depressed, is now gradually to become more prosperous and profitable, and that farmers have only to wait patiently for the good time coming. This they might do safely, were other classes of our fellow citizens, who imagine that their interests are opposed to ours, contented to adopt a similar course of inactivity. The late movement in relation to the re-establishment of the reciprocity treaty, the tone of the city press, which represents the interests of the commercial, manufacturing and consuming classes, and the recommendations of the late report of Hon. David A. Wells, special revenue commissioner, excite our fears as to the safety of the "let alone" policy which farmers have so long been contented to pursue. We believe that Wool-growers' Associations have been, as Dr. Randall says, a power in the land, and that Congress has deferred to them on the important legislative questions pertaining to wool protection. We believe, also, that if wool-growers would keep these matters as they are, the work of these associations is by no means done,—that in fact there has been no period in the history of the woollen interest of the country when associated action was more needed than now.

We have been lead to these remarks by the perusal of an ably written article on the general subject of the tariff in the January number of the *North American Review*, a publication designed for the few, rather than the many; for the leaders, rather than for the multitude; for the governors, rather than for the governed. It is printed four times a year, at six dollars per annum, and probably finds its way to but few farm houses. It is, however, read by congressmen, lawyers, &c., and through these men it has much influence on public opinion, and especially on the legislation of the country. We copy that portion of the article which relates to wool, and ask for it a careful reading by every wool-grower:—

To pass now to wool. In 1864 we sent out fleets of vessels to Africa, Australia, and the La Plata for wool, and imported eighty-eight millions of pounds, which was made into cloth. Our duties were then but three cents a pound on wool costing less than twelve cents, and but six cents a pound on wool costing from twelve to twenty-four cents. Since the war, although the apparent necessity has ceased, the wool-growers and manufacturers have combined to raise the tax both on wool and woollens, and the duty on all but the very coarsest wool for carpets has been advanced to an average of *fourteen* cents a pound. This duty is imposed on an article which cost on the average but seventeen cents when the advance was made, and which declined to fourteen cents during the last autumn.

Why should we pay a hundred per cent on wool, if we wish to compete in manufactures with other nations? If on the plains of La Plata or on the savannas of Africa the Merino can be pastured through the year, and the fine Mestiza wool sold for fourteen cents a pound, why should we tempt our farmers to leave dairies for sheep, and to set aside the cheese-press and the churn, when cheese commands seventeen cents and butter half a dollar a pound in our markets? If the Ohio or Vermont farmers cannot afford their wool for less than five times the price of that of the valley of the La Plata, let them not drive the *rancheros* into the dairy or beef-packing business, which gives such liberal returns. Do our Western farms, which government sells for a dollar and a quarter per acre, or gives outright to the actual settler, require protection, when France, England, and Belgium, with pastures worth four hundred dollars the acre, and with seventy millions of sheep in their possession, admit wool free of duty, and are farther advanced in the manufacture of cloth?

Two years since, we advanced our duties on wool and woollens. We did it upon the delusive theory, that fine wool ought to cost over thirty-two cents a pound, and pay a specific coupled with an ad valorem duty. Then we assumed that woollens should pay a duty of fifty cents a pound for every pound of wool, jute, or cotton they contained, in addition to a heavy ad valorem duty. Meanwhile our trade with La Plata, Southern Africa and Australia is broken up. Our importation of wool falls from eighty-eight millions of pounds in 1864 to twenty-three millions in 1868,—a decline almost unprecedented in the annals of commerce. Our ships are thrown out of employment; for the return freight of wool gave them two-thirds of their profits,—and the foreigner cannot buy the outward cargo, unless we take his wool in payment. Our factories lose their supplies. The merchant loses the export of flour, furniture, fish, petroleum, coarse cottons, and wooden-ware to the Cape and La Plata; and the wool, diverted from our factories, passes on to the factories of England, France, and Belgium, and is there converted into cloth. Nor is this the end of the evil. The cloth comes over to Halifax, St. John, and Montreal, seeks the frontier, and, with little respect for our duties of eighty or a hundred per cent, finds its way into our territory; and tours of pleasure are made across the border to replenish wardrobes.

The whole measure from beginning to end has been a mistake, and our woollen trade is depressed. England, France, and Belgium have long since abandoned the idea of a duty on wool, and have thus made their manufactures successful, while

they are still among the largest sheep-producers of the world.

But whatever may be done with the duties on woollens, there are a few articles made from wool abroad which are not manufactured here, and consequently do not compete with our own manufactures. Lastings, serge, and plush, however, which are not made here, are used extensively in the manufacture of ladies' and children's boots and shoes; and the single city of Lynn pays more than two millions yearly for these materials, which are now subject to a duty of eighty-five per cent. The shoe-manufacture has in the last decade been raised from a trade to an art. The lapstone and the leather apron have been discarded. The steam engine and the sewing-machine have superseded the hammer and the awl. Mechanism, in its various forms, prepares and fashions the slipper and the gaiter-boot, and relieves the artisan from the fatigue and monotony of a wearisome life. Should we hamper such a progressive branch of industry with duties of eighty-five per cent. on the material it is compelled to import?

The foregoing is all that the writer says of wool. Other articles of production and trade are, however, discussed in the same spirit. As it has been doubted by some wool-growers whether the present duties on foreign wool have in fact materially checked importation, the statement of this writer, expressing as he undoubtedly does the views of commercial men, is entitled to special attention. As a result of these duties, he says, "Our importation of wool falls from eighty-eight millions of pounds in 1864, to twenty-three millions in 1868,—a decline almost unprecedented in the annals of commerce." This fact, so encouraging to farmers, is the gist of the argument of this writer against the continuance of these duties. The glowing picture which he draws of the prosperity of the Lynn shoe manufacturers, who have succeeded in relieving "the artizan from the fatigue and monotony of a wearisome life," when placed in contrast with the well known depressed condition of the laborious "trade" of the wool-grower, will hardly be accepted by most farmers as a sufficient reason for the free admission of foreign wools and woollens.

But it is not our purpose to answer his arguments against the "delusive theory" on which the present duties on foreign wool are based. Our object is simply to bring before wool growers a specimen of the counsels and reasonings which will influence the action of Congress unless they are met and counteracted by those of the owners of the 30,000,000 sheep which the farmers of this country are now wintering in the hope that a better day is dawning for this important branch of the agricultural industry of our country.

Mr. Morrill, of Vermont, in reply to a farmer who complained to him on his return home, that his tariff did not sufficiently protect the wool-grower, replied, "Well, sir, blame yourselves for it. Why didn't you get your statistics and come to Washington and show them to us? The manufacturers were there in their strength. They showed us these things, and they had their influence there; and you wool-growers ought to have been there, too."

The owners of the ships, alluded to in the above extract, that have lost their freights of foreign wool; the merchants who have lost their traffic; the Lynn shoemakers who don't like to pay duty; the manufacturers and consumers of cloth generally, who wish to use Mestiza wool at fourteen cents per pound, will be present at Washington during the proposed revision of the present tariff, with arguments and statistics of which our quotation from the *American Review* is a fair specimen; but we are afraid that the wool-growers, scattered as they are over our whole country, will remain at home attending to their respective flocks of fifty or one hundred sheep, and allow public business to be managed by other people. Is this a good time for Wool-growers' Associations to go to sleep?

VERMONT AGRICULTURAL COLLEGE.—The Hon. John Gregory, of Northfield, in his valedictory address as President of the Vermont State Agricultural Society, delivered at the recent meeting at Bellows Falls, read the following letter from President Angell of the University of Vermont, with which the agricultural college is connected. It was written in reply to a request for information as to the present state of the agricultural branch of that institution.

Two years ago last September, we organized courses of study in accordance with the Act of Congress, requiring instruction to be given in the application of science to agriculture and the mechanic arts. We provided courses for young men looking to either of the following pursuits—farming, practical chemistry, mining and civil engineering. We also provided military instruction last year. Our plans and methods have been widely made known through our catalogues, our annual reports to the General Assembly, circulars and the newspaper press. The number of young men who have thus far availed themselves of the opportunities afforded by us, has been small, and nearly all of them have desired the course of civil engineering. Of course we earnestly desire the interest and co-operation of those citizens who believe that science has any service to render to

agriculture. We intend to enlarge our facilities for practical scientific education just as rapidly as the demand for such training increases. We are always very happy to have visitors call upon us, and see what we are doing. We believe that we can satisfy them that it is no longer necessary to send the sons of Vermont out of the State, whether to obtain a classical education or a thorough acquaintance with the physical sciences in their application to agriculture and the mechanic arts.

NEW ENGLAND WHEAT CONVENTION.

In a late number of the FARMER I noticed a proposition for a grand Convention of Western wheat growers. Such a Convention, it strikes me, is more needed in New England than at the West. Here I think there is a positive necessity for such a Convention. The increased interest in the cultivation of wheat that has been manifested in all parts of New England, of late, would be still further stimulated. The past season Maine reports two hundred thousand bushels. None of the other States have been reported, but doubtless many other experiments have been wrought worthy of publication.

We have had Horse Conventions, Wool Conventions, and scores of other Conventions for the "public good," and now, we say, lastly and earnestly, let us have a great Wheat-growing Convention, embracing an interest, *unknown to nine-tenths of the yeomanry*, on whose farms hundreds of millions of bushels of wheat can be produced, requiring neither art nor skill beyond the cost or labor of getting any cereal crop. Let every town or county in the New England States be represented at some central point, say Boston, and there discuss this and other subjects, bringing into goodly fellowship a class of noble men, the tillers of the soil.

It behooves the New England farmer to protect his interest in this new occupation, partly in view of the West becoming large manufacturers of the heavy textile fabrics and agricultural implements, as well as supplying many of their domestic wants, for which they were formerly dependent on New England.

The question—"Can we grow wheat?" I most emphatically answer, we can, and to repletion, and we will. HENRY POOR.

Brooklyn, L. I., 1869.

REMARKS.—Our highly respected correspondent, Mr. POOR, has long been a zealous advocate for wheat raising in New England, and we doubt not his motive is a real regard for the best good of New England farmers. We fully coincide with his views, so far at least that we think *every farmer who has a suitable soil should raise sufficient wheat to supply his own family with bread*; and thus, in the important matter of bread, farmers would be independent of speculators and railroad exorbitance, and sure of sweet and wholesome flour. Further than this, each one must judge for himself.

We cannot raise wheat or corn or potatoes or grass without manure. The great problem with us is to get manure. We need every ounce we can obtain, and the question occurs to every one, how can it be most profitably used?

An acre of land well manured will give us twenty bushels of wheat. This same land with the same manure will yield fifty bushels of corn, one hundred and twenty bushels of potatoes, or two tons of hay. We need all the corn we can raise. This makes milk, pork and fodder, and leaves a valuable residue in manure. The potatoes and hay find a ready market. Which crop, then, is the most profitable? In the vicinity of the cities, other crops are more profitable than cereals of any kind, and the cultivator will raise neither wheat nor corn. The fifty bushels of corn are worth sixty-five dollars. The wheat forty-five or fifty. The potatoes eighty, and the hay forty. The first three crops require thirty dollars worth of manure each. The hay none, and the labor of harvesting is less. Each farmer must determine for himself as to the expediency of raising every particular crop. The corn crop is, and ever will be, the favorite crop in New England. If we had manure to raise all the corn we need, and to raise wheat besides, there would be less question about the matter. But if we must import the one or the other, will it not be cheaper to import flour?

One important consideration we have alluded to. The farmer likes to see his manure heap increasing. Wheat yields no manure, at least unless the straw is fed to stock. But corn stover is worth more for fodder than wheat straw. This question has received a good deal of attention already among the shrewd Yankees. The nature of his soil, his facilities for market, and for obtaining artificial manures, will assist in determining what crop each shall raise. In the northern half of New England, where the corn crop is more uncertain, it may be best to raise wheat as a leading crop. In the southern half, where the corn crop is the most certain crop we have, it may not be so.

We can see several good reasons why the wheat growers of the West may profitably hold a convention. In all the older wheat growing States, the crop is annually depreciating. The first question will be whether they shall attempt to continue the growing of wheat at all. What varieties can best be grown, if any; how the ground shall be prepared, and the

seed put into it, and whether they shall attempt to raise wheat any further than they can manure the soil. They need an interchange of views and experience on these and other points belonging to this subject. But at present, with all due regard to the views of our correspondent, we are disposed to think that New England farmers will settle this question, each for himself, quite as well as by a convention. Still, we shall be glad to see the farmers in convention to discuss this among other questions. Great good would undoubtedly grow out of it. We shall heartily second our *State Boards of Agriculture* in any judicious plan they may suggest for awakening a new interest, and getting the opinions of the farmers.

WEIGHT OF HAY.

One of the most striking circumstances in the effect of a drought on the weight of hay may be seen in almost any hay mow at the present time, especially if it has not already been consumed. It affords the farmer an instructive lesson, and establishes a very important principle in the cutting and curing of hay.

It will be recollected that the last spring was an unusually wet one. Farmers did not get their planting done till late into June. This was followed by warm weather without the usual cold nights at that season. Grass grew rapidly and promised an abundant crop. During the month of July we had the hottest weather ever recorded. The effect on the grass crop was averse to consolidation of the juices that serve to make a crop with hard and solid stalks with the juices well-formed and dried. We well remember how green and lively the hay looked as we gathered it into the barn during the hot week. But if we examine that hay to-day we find the stalks are of exceeding loose texture, they are slender and flat. The round solid stalk is wanting. Cattle and horses will eat a large quantity of it. For milch cows and young cattle and horses it is no doubt excellent, and they will eat more of it than is actually necessary for them. It probably takes well nigh one-half more in bulk of such hay to carry along the cattle and horses than when hay is well ripened. These facts are observed, we presume, by every farmer in the State, the present winter.

This condition of things, it will be perceived, is the result of a sudden change from moist, warm weather to dry, hot weather. The stalks could not ripen well under such circumstances. To ripen well, it is especially necessary that the process should be a slow one, and this can be accomplished only after a long, wet spring, followed by a gradual drought. The saccharine juices are then matured and hardened. For working cattle and horses such hay is far the best. To give them such hay as most of us have, is much like giving a lumberman sponge cake for his dinner, instead of his pork and beans. For a farrow cow we should always like some early cut hay, even if it took more of it, but for a solid, durable quality, let the juices be partially hardened before cutting. The second bloom is probably the best time, and is generally recognized by farmers.

A careful observation of the past season in its effects on the hay crop affords an instructive and striking lesson. Economy in its use will certainly be necessary or many farmers will be compelled to buy hay the coming spring. Winter set in very early. In the northwest portions of the State it has been constant sleighing since the eighth of November. Two years ago sheep were not brought to the barn till the tenth of December. During the last month the sun did not cause the snow to yield but one day in the same vicinity, a circumstance almost without a parallel. We think that most of the hay cut last year may be measured out to stock without their suffering essentially. This is a matter requiring careful judgment. Give them one-third more in bulk than we usually have given them and we are sure they will not suffer.—*Me. Farmer.*

REMARKS.—Farmers in other sections who commenced feeding their stock earlier than usual the present season, are making the same complaints as to the spending quality of hay. Mr. C. Horace Hubbard of Springfield, Vt., says in the *Record and Farmer* that "Many a thoughtful farmer, who watches his hay-mows as well as his cattle and sheep, will notice that the hay disappears with unprecedented rapidity. The hay is 'very bulky,' but a forkful of it is light. The truth of the matter is that the value of the hay crop of Vermont the past season is less than usual, by a large per cent." He agrees with the *Maine Farmer* as to the cause, and adds that the English grain filled badly, and in many cases the straw rotted in the field before or after cutting. In view of the necessity of the closest economy in the use of all kinds of fodder, he suggests that experiments be made in cutting and steaming, particularly corn stalks, straw, &c.

—At a late meeting of the Herkimer County, N. Y., Farmers' Club, Mr. Whitmarsh spoke of a worm quite destructive to fruit trees that he had never seen before. It had a lion-shaped head, and when disturbed seemed to resent it by drawing itself up and shaking its head. It is larger than the common apple tree caterpillar.

EXTRACTS AND REPLIES.

SOOT AS A TOP-DRESSING FOR GRASS LAND.

You will oblige me by information through the FARMER as to the value of soot as a top-dressing for grass land, and as to the amount required for an acre. D. M. HODGE.

East Canaan, N. H., Dec. 29, 1868.

REMARKS.—In reply to a similar inquiry, last year, we remarked that in England soot is regarded of much value as a fertilizer, and it is also used to protect plants from insects. It is said that as high as $45 per load has been paid in England for soot for the purpose of killing insects. Three or four quarts of soot dissolved in a barrel of water is said to be about equal to guano as a liquid manure, especially for flowers. About eighteen bushels is said to make a valuable dressing for an acre. We have generally thrown what little soot we have been able to procure into the compost heap, and have never experimented with it by itself.

FARMING IN ILLINOIS.

Enclosed please find payment for the NEW ENGLAND FARMER. When I wrote you one year ago I had not money enough to pay one year's subscription. Now, although I have none to give away, yet I have sold oats, corn and rye enough to pay expenses so far, and have about 2500 bushels of corn left. The oats, after drawing nine miles, sold for 37 cents per bushel, and the corn at the same place bringing on an average 35 cents per bushel.

I would like to state a few facts, especially to the young men in New England, who have never been "out West." In order to raise good oats we do not plough, unless it be in the fall, except with a double shovel, which is like a cultivator with two large teeth. On old corn land, hundreds of acres of small grain are put in with no other work except to sow and harrow in. One man with a pair of horses can plant and cultivate from 30 to 40 acres, besides raising some small grain.

My corn, of which I planted 100 acres, will average a little more than 40 bushels to the acre. I think, without doubt, I could have measured off an acre near the stable that would have yielded not less than 75 bushels. The help that I have had was one man and a boy of 15 years; teams, one pair of mares, both of which had colts, and two pair of mules. For common farm work I prefer mules to any team that I ever used. The teams here, when worked, are usually fed all the corn they will eat. Horses will commonly eat from twelve to fourteen good ears of corn three times a day. Mules will not eat as much. I have one pair that will not eat more than half that quantity.

On one thing my mind is made up, and that is, if a man wants to get rich on a farm without working, he might as well stay in New England as to come to Illinois. Although the land is much better, and it is not necessary to use any manure here to insure even larger crops of most all kinds than are raised in New England, and good stock hay may be had in any quantity for the cutting, and thousands of acres of corn fodder are burned every year, yet I think it is just as essential that a man have some capital here as anywhere else. If any man wants to come West, let him come and work out one year for some enterprising farmer. If he is satisfied and likes here, then, if he be possessed of an ordinary business capacity, let him go at it in earnest on his own hook, and if he has his health and is industrious and patient, he will do well, and if he should think, as I do, after having been here two years, he could hardly be hired to go back East to farm.

Last spring I sent to Hartford, Vt., and got and sowed fourteen quarts Norway oats; but it seemed that my neighbor's predictions were about right in regard to their productiveness. They did not yield more than the common oat, but I am going to give them one more trial. A. R. P.

Middletown, Ill., Dec. 29, 1868.

FROM THE FACTORY TO THE FARM.

I see by the date on my paper that it is time for me to renew my subscription for 1869. Though a little short for money just now, I cannot get along without the FARMER. I should scarcely know how to run my farm without it.

I commenced here ten years ago, a green hand from the factory, with only eight hundred dollars in money. I purchased a farm for $1750, and went to work under the directions of the NEW ENGLAND FARMER.

My first operations for the improvement of the farm were on wet land that was almost worthless and unproductive. It is now the best and most profitable part of my farm, producing a ton of good hay per acre. At first my neighbors laughed to see me drawing stone for underdraining. Some predicted that I should spoil my land with so many stones; others said that if I kept at work in that way I should soon be obliged to sell my farm. But instead of being obliged to sell any part of my farm, I have added over fifty acres to it. I am always glad to have you write anything about reclaiming or improving wet land.

I have twenty acres of meadow land that are annually flowed. I can mow about one-half of it with a machine. But there are bogs that bother me in raking. I have always used a revolver, but cannot rake much of my meadow with it. Is there any horse rake that will operate better than the revolver on such land? On this point I should like your advice, as it may save me some hard work.

Please excuse the foregoing as it is the first time I ever tried to write anything more to an editor than a mere note enclosing my yearly subscription. J. W. DANA.

South Amherst, Mass., Dec. 28, 1868.

REMARKS.—We have seen the *Bay State Horse Rake* do the work quite well on land so rough that we thought it impossible to rake it with any thing but a hand rake. The surface had not only hassocks, but numerous ragged rocks, around which clung the creeping blackberry vine. It was too rough to put any machine into, and was used for the purpose of testing the rake. It also had low, wet places, but was not a bog.

CULTIVATION OF CORN AND POTATOES.

Several years ago I concluded to take the NEW ENGLAND FARMER for the purpose of learning how the Down East Yankee farmers contrived to make farming pay on land not generally very fertile. Of the many articles from ingenious and skilful cultivators, one on the cultivation of corn and potatoes was worth to many of its readers the cost of the paper for many years. As it is some years since that article was published, its leading directions will bear repetition. I do not recollect the precise language given in the case, but it was substantially as follows:—

In "marking out" land for corn or potatoes, make the marks as straight as possible one way. Then, in the case of potatoes, plant early, and as

soon as the plants are up sufficiently to show the rows, go over the field with a cultivator, twice in a row, so close to each side of these straight rows as to deeply and thoroughly work the soil in the hills or rows. Thus early before the plants have extended root growth no harm is done them by close cultivation. This can be much more thoroughly and advantageously done where the rows are *scrupulously* straight. Give ordinary or suitable after cultivation. There might be an advantage in first going over the potatoes with a square harrow inverted, as is recommended of late. In cultivating corn after this mode, be careful to cover as little as possible and allow none to remain uncovered.

The first acre of potatoes that I raised on "this line" didn't "take all summer," and they were so large and uniform in size and every way so nice that I charged six cents per bushel above the market price for them, in "cheap times," and got it. How differently situated are crops, cultivated as described, from those which are allowed to grow (take their chances) in hills or rows a foot or more across uncultivated (except perhaps scratched with a hoe) and sure to dry out and become as compact as you please, only more so.

ISAAC IDE.

East Shelby, N. Y., Jan. 2, 1868.

POULTRY ACCOUNT.

For a year past I have kept an account of the cost and profit of keeping poultry. I have not speculated any in fancy breeds, but have kept an old fashioned kind. I have fed a great variety of food and think it is well to change often, and to give them plenty of warm drink in winter. The following figures will show the state of my affairs:

1867. Dr.	
Dec. 24, to 7 hens, at 50 cents,	$ 3 50
" " 6 pullets, at 30 cents,	1 80
" " 1 rooster	40
1868.	
April 7, to 13 eggs for setting,	27
" 21, " 3 hens, at 50 cents,	1.50
May 8, " 13 eggs,	27
" 15, " 12 eggs,	23
June 31st, " 15 eggs,	38
Nov. 1, to 1 rooster,	50
Dec. 24th, to cost of keeping one year,	$25 48
	$34.33

Cr.	
Dec. 24, by stock on hand.	
" by 5 hens, 12 pullets, 2 roosters, 50 cts,	$ 9 50
" " 4 late pullets, 30 cts,	1.20
" " 28 fowls killed, 50 cts,	13 00
" 120½ doz eggs laid one year, 25-33	33.55
	$57.25
Profit	$22.92

Winchendon, Mass., Jan. 1, 1869. J.

MILKING A KICKING COW.

In reply to your correspondent who inquires for some way to milk a kicking cow without tying her in some of the various ways that have been recommended, I will give a little of my experience in that line; premising that no one ought to undertake the job just before a shower when he has a load of hay in the field that he is anxious to get into the barn. To milk a good experienced kicker without tying, requires time and patience. I once bought a cow of a man who said no one could milk her without tying her legs. I first cleared my stable as for a dancing party, drove the cow in and shut it up as dark as possible. With a milking stool made on purpose, about two feet high, I gently seated myself by her side. If she was there when I was ready to commence milking, she was not there long afterwards. But I followed her to where she was, having closed my lips firmly against the first harsh word. This process was repeated until the cow was tired of running away and concluded to stand and be milked. After which I could milk her in the yard. In the course of the summer I was obliged to be absent a week or more, and the milking was done by another hand. On my return I could not get within reach of my kicking cow, and was obliged to give her another dark-stable lesson, and in the course of a few weeks I could again sit down and milk her in the yard as I did other cows. Therefore, though I believe that most kicking cows can be milked without being tied, I wish to add as a postscript—it is difficult! T. S. F.

Fetchville, Vt., Jan. 3, 1869.

MR. ARMS' DURHAM STOCK.

I have just been looking at some of the finest stock I ever saw, and though I may not be able to describe them with all the minuteness and particularity of an experienced writer, I think a brief notice will be acceptable to that large portion of the readers of the FARMER who are interested in improved stock.

I allude to the Durham or Short-horn stock owned by Henry M. Arms, Esq., of Springfield, Vt. His herd was commenced by the purchase of the entire stock of Durhams kept by Burdett Loomis, of Windsor Locks, Conn., consisting of eleven animals, for which ten thousand dollars were paid. Since the purchase four calves have been dropped, making the present number of thoroughbreds fifteen.

His bull, "4th Lord of Oxford," I regard as a perfect animal. He is three years old, estimated to weigh 2500 pounds and is valued at $3000. He took the sweepstakes at the New England Fair this year at New Haven, also the first premium at the Vermont State Fair at Burlington, at which places so many saw him that I need to say no more in his favor.

His cow, "Victoria," took the sweepstakes as a milker at the New England Fair, and I believe she is well entitled to the honor. Another splendid cow, "Emma," is a good model, and weighs 1600 pounds. "Estelle," out of Emma, is one of the best milkers I ever saw, and "Belle the 5th," is a remarkably good looking cow.

"Pride of Stony Brook," out of Victoria by 6th Duke of Thorndale, is the finest yearling heifer I ever saw.

That I am not alone in my high estimation of this stock, I may say that Mr. Arms took six premiums at the Vermont State Fair, all being first premiums in the respective classes in which his animals were entered. I need say no more.

Springfield, Vt., Nov. 16, 1868. B. D. W.

REMARKS.—Having seen Mr. Arms' stock at the State Fair at Burlington, we believe the above notice to be well merited, and we regret that its publication should have been so long delayed. It was written upon a spare page of a business letter addressed to the publishers, was laid aside with other business letters and thus overlooked. Those who write to newspaper offices should always put what is intended for the editors upon a separate sheet from that which is intended for the publishers, and thus avoid such trouble as the above.

AGRICULTURAL PAPERS.—SEASON AND CROPS IN NEW HAMPSHIRE.

The reading of the FARMER during the past two years deepens my conviction of its usefulness to the farmer and stock raiser. It is filled with practical hints and valuable instruction. But on some inquiry among the farmers of this town, I can find only four agricultural papers taken by them, and

what is worse an apparent want of any desire for agricultural reading on the part of many. Please find enclosed my third year's subscription.

Winter here set in, with plenty of snow, about the tenth of November, and there has been no thawy weather until yesterday, when it rained moderately. The crops have been good this season with the exception of oats. C.

Shelburn, N. H., Jan. 5, 1869.

A COW THAT GIVES NO MILK.

I have a Short-horn heifer. She calved when two years old, did well, showed herself a superior milker; is a fine animal, of pure blood. I was at considerable expense to expose her to one of the best bulls in the State. Last March she dropped a well-formed heifer calf, apparently well. The cow's bag was much swollen, but yielded not one drop of milk. Various expedients were resorted to, but in vain. Milk of another cow was given to the calf, but the third day it died. The inflammation of the cow's udder yielded to applications, and the swelling at length subsided. But *no milk*. She run in the pasture during the summer, got fat and seems as well as ever. She is now with calf again. Most that I have consulted, say kill her; yet I find no one who has had a similar case. She is too valuable an animal to sacrifice if she can be made available as a breeder and milker.

Please give me the benefit of your experience in this matter. R. B. HUBBARD.

Amherst, Mass., Dec. 3, 1868.

REMARKS.—It is not unusual for a cow to do well one season after having done very poorly the year before; but in this case the cow's bag was much "swollen," and "*inflamed*." The *inflammation* undoubtedly changed the glandular tissues so that no milk was secreted. The udder is sometimes trodden upon or is injured by jumping over a wall, or bars; inflammation takes place, and no milk is secreted in one quarter of it. Suchcases are not unusual. The tissues become hardened, or hepatized as we say of the lungs. It is very doubtful whether she will give milk hereafter. Please let us know.

CONSTRUCTION OF CELLAR WALLS.

A young farmer wishes to know how he shall construct a cellar wall so as to turn frost. The thing is easy to be accomplished, at least with us here in cold Canada. It is no wonder that Jack Frost enters the cellars and makes fearful havoc with the potatoes, apples, &c., where cellar walls are laid as some are in Orleans County, Vt., where the writer visited last fall. Before he knew how these walls were constructed he could but admire the beautiful granite underpinning of the houses. But good looks are hardly an equivalent for frozen vegetables, which may certainly be expected under the circumstances. In the first place a rough dry wall was laid from the bottom to the surface; then the frame was raised and blocked up at a desirable height; then commenced the operation of laying the underpinning, slabs of beautiful granite of all lengths up to ten feet, and in many cases longer, being used. The ends and upper edges of these slabs were made straight, so as to conform to the sill and to each other. They were then put into place, and raised even with the sill, by chinking up from the under edge, one end at a time, leaving under the middle of the stone a space sometimes large enough to admit the passage of a cat or a dog, which was also afterwards chincked up. Of course a large amount of banking must be required to keep out frost with such a wall. Now the true way, in laying the foundation for a new house, or relaying the wall of an old one, is to commence at the bottom and lay from eight inches to one foot of the thickness of the wall in mortar, till within one foot of the surface, and then it should be all laid solid, or with a space for dead air according to the fancy of the builder. In either case where a wall is built any considerable distance above the surface, the frost will accumulate on the inner surface of the wall on that part laid above the ground, but this will do no injury unless your roots lay immediately against the wall. In the majority of cases the potato bin may be made in some corner less exposed than others, as there are such in most cellars in our uneven country. The idea of using mortar from the bottom is to keep the small stones in their place and to afford less chance for rats to work.

The writer has often seen walls built as above stated, from four to five feet above the surface without any injurious effects whatever, and will guarantee that if our young farmer will build according to the above suggestions it will save him the trouble of banking every year to save his vegetables from frost. It may be that lime is cheaper with us than it is with you,—being here from 12½ to 20 cents per bushel, in silver; but never mind that; we don't calculate on building every year.

Brome, P. Q., Dec. 23, 1868. J. H. HASTINGS.

QUERIES ABOUT A BULL.

To the Editor of the New England Farmer:—I have read with pleasure what has been published in the FARMER, for the last few years, in reference to the raising of stock, and of the different breeds of cattle. For my part, as a source of profit, I prefer the good native stock, and I always take particular pains to avoid the Herd Book in selecting cows *for my own use*—that is, for raising milk for market. I have found the Herd Book a very useful volume when I have purchased cows to sell to those who believe in high sounding titles and jaw-breaking names. I have sold a good many cattle at satisfactory prices, which have proved excellent milkers, though I believe I never owned a pedigree cow which gave a larger quantity of milk than some of my herd that cannot boast of an illustrious ancestry. Now as there is quite a difference of opinion among the farmers hereabouts in regard the raising of a bull calf of mine for stock purposes, I want your opinion on the matter. The calf is a splendid looking animal, and can boast of an illustrious ancestry and an uncontaminated lineage. Three different Herd Books register his ancestors, who originated in Holland, Scotland and England, and are among the renowned barons, dukes, duchesses and dowagers who have been the pride and boast of our stock raisers for many years. He was got by a Dutch bull (pure blood) out of a heifer, six years old, who was got by an Ayrshire bull (pure blood) out of a Durham cow, ten years old, (pure blood) all of which are registered in the Herd Books; so that he would be one-half Dutch, one-quarter Ayrshire, and one-quarter Durham. The question to be decided is,—whether the butcher shall have him, or whether he had better be raised for stock purposes? Our club of six is equally divided, and you are called in, as umpire, to decide whether he goes to the slaughter house or the stock pen.

Marion, Mass., Jan., 1869. ABRAHAM ROGERS.

REMARKS.—Send him to the—butcher! When you come to the conclusion to improve your stock do *just as you please*. Our suggestion would be, however, to take pure blood on both sides. If unlike each other, then you would have what are called "half bloods," but if sire and dam are of

the same breed, you would have full bloods, and in either case would know about what you have before you. Glad you are not all of the same opinion in Marion; that shows that you have inquiring minds and are on the road of progress. Thank you for the compliment in making us an "umpire."

LEACHED ASHES AND HORSE MANURE AROUND TREES.

Having noticed two or three articles in the FARMER giving an account of apple trees being injured by ashes, I feel somewhat uneasy as to the effect of what I have done for mine, and I will ask if you think there is danger of my trees being injured. My trees have been transplanted three years last spring. In the fall I scraped away some of the dirt, and put four shovelfuls of leached ashes and perhaps a bushel of horse manure to a tree, and covered the whole with earth. G. H.

Bristol County, Mass., 1869.

REMARKS.—You will find no harm done to your apple trees by the application you have spoken of above. Where a considerable quantity of unleached ashes is applied directly to the trunk, the first soaking rain carries a strong ley against the bark or on to the roots, and is quite likely to do damage. It is better to use all caustic manure in moderate quantity and more frequently.

FOX TRAPPING.

In your issue of Nov. 14, there are some statements in regard to the trapping of H. H. Day, of Chesterfield, N. H., which need correction, as they do him but partial justice.

Mr. Day had in his traps during the winter of 1866 and 1867, twenty-six foxes; in 1867 and 1868, twenty-five; and, so far this season, he has had twenty. He has caught, in the last twenty years, more than four hundred foxes, all in the common steel-trap and within a few minutes walk of the village in which he resides. The winter before the last he took twenty foxes in two traps, nine in one, eleven in the other, without moving the traps.

He has done such a thing as to set two traps within ten rods of each other, and have a fox in each at the same time. It is not an uncommon thing for him to have a fox break off and leave its foot in the trap and then come back and be caught a second time in the same trap before the limb had healed.

Mr. Day can take a fox just as surely and with as little trouble as most persons experience in taking the striped squirrel or polecat. This skill in fox trapping, Mr. Day has acquired by a thorough and careful study of the habits of this most crafty of animals.

And those who wish to trap, either for profit or to rid themselves of this pest of the hen-roost and sheep-fold, will do well to apply to Mr. Day for instructions as to the way and manner of catching a fox, rather than pay their money for the thousand and one nostrums put up by druggists and others, who never did and never can catch a fox themselves. M.

REMARKS.—Within a year or two past we have published statements from poultry raisers of losses by the depredations of foxes and other wild animals, which it has been alleged have increased in consequence of the decrease of dogs; and only a few weeks since we had an account of the destruction of eighty turkeys in a single day by one fox, on three adjoining farms in one town in New Hampshire. For the benefit of our poultry raising friends we are willing to publish the foregoing statement, by a gentleman who is personally acquainted with Mr. Day.

THE SEASON, PRICES, STOCK, PORK AND POTATOES IN MICHIGAN.

We comenced to fodder here on the first of December. We have had one week of sleighing on five inches of snow. The snow left us on the 23d, and the wheeling is now good. Corn 30 cents per bushel in the ear; hay $12 and plenty, and the stock is looking finely. I have a few full blood Short-horns from Mr. Warwick's herd of Kentucky.

Farmers are realizing a handsome income from their pork harvest. I am informed that the shipments from this station, on the Northern Indiana and Southern Michigan railroad, amounted to 186,000 pounds for one day this week, loading ten large cars. As many as 500 to 600 dress hogs are brought in by farmers on some days. Prices for heavy hogs have ranged from $9.50 to 11.50 per 100 pounds.

Having removed here from Vermont only two years ago, I have not outgrown my interest in Eastern affairs. I see that some of my good friends in the Green Mountain State, who have had the fine wool fever pretty bad, are now having the potato fever rather severely. I am afraid it will go hard with some of them, as a relapse or a second fever is considered dangerous, I believe, in ordinary practice. We have no potato fever here in Michigan, but I have a variety that, according to our best chronometers, is full fifteen seconds earlier than the Early Goodrich or Early Rose. It is known in my neighborhood as the "Early Shaw." I may send a peck next spring to the editor of the FARMER, to enable him to come out ahead of the Vermonters, but I have not a single eye to sell.

Hudson, Mich., Dec. 25, 1868. D. M. BRIGGS.

SORE TEATS IN COWS—EARLY ROSE POTATO—THE SEASON IN CHITTENDEN CO., VT.

I would recommend to any one troubled with their cows having sore teats, to take of mutton tallow three parts and Burgundy pitch one part; wash clean and apply moderately warm, twice each day, until a cure is effected.

How about the Early Rose? Has any one had the "moral courage" to bake, boil, roast or fry one —only *one*—so that he can tell us of the quality? If so, let him speak over his or her own signature and thereby win—I was about to say—immortal honor.

Winter in this region has not been severe, but steady, as we have had no rains or warm days so as to thaw the snow to affect the sleighing, which has been good for about a month. E. J. BUTTOLPH.

Essex, Vt., Jan. 5, 1869.

A WINDY COLT.

Can you tell me anything to give a colt that is continually troubled with wind, passing it almost without cessation? G. A. D.

Windsor, Vt., Dec. 1, 1868.

REMARKS.—First ascertain the cause of the wind, if possible, by changing his food, and in the meantime give him some mild tonic, as a table spoonful of ground ginger in moist meal. The advice of a physician is worth getting for the relief of a good colt.

HOW I MAKE MANURE.

I have a cellar under my barn made as tight as stones and mortar can make it. No cold winds can find a crack through which to enter in the winter season. Manure never freezes at all in it. In the summer, doors and windows are thrown open and free circulation given. The barn above is made tight with the exception of a ventilator, and in consequence of having a warm cellar under it, is itself warm. Manure very seldom freezes behind the cattle. The linter is constructed with a trench behind the cattle for the droppings, and in rear of this is a raised walk. In the linter the cattle are kept nearly all the time in cold weather, and every night during the summer. As soon as the snow disappears in the spring, muck is wheeled into the barn every morning, and deposited in the trench. Enough is used to absorb all the liquid, and take up the juices of the solid droppings, so that there shall be no leaching from the heap below. Care is taken that the muck be considerably dried, so that it will absorb large quantities of the liquid. The next morning the trench is cleaned out, care being used in the process to have it well mixed with the solid excrements, and a new supply of muck wheeled in. In the cellar it is left as light as possible. No cattle, hogs or anything else are allowed to step upon it. A mild fermentation takes place and decomposition rapidly commences. If the muck is well dried and a sufficient quantity is used, there will be no leaching from the heap; and being under cover it is not washed by the rain nor excessively dried by the sun. The fermentation is not great enough to throw off the ammonia. There is no waste, no loss, all is there and is held by the absorbent powers of the muck for the use of the plant.

In the winter no muck is used with the cattle droppings. The horse manure from the stable passes through a scuttle to the cellar beneath, and is there thrown over and mixed with an equal quantity of muck and left light to decompose. This process is carried on all through the winter, or all the time the horses are stabled. A large quantity of excellent manure is derived from this source.

The swine are kept in the cellar in pens with tight plank floors. Into these pens are thrown large quantities of muck, turf, loam, leaves, brakes, straw, &c., for the hogs to work over. Muck is preferred to anything else, when a sufficient quantity is at hand which can be spared for that purpose. After it has been well worked over by the hogs, and thoroughly mixed with their droppings, it is thrown out, forked over and left light in a heap to decompose. This operation is carried on in winter as well as summer. The ingredients for winter use are carted into the cellar in the fall, and thrown into the pens in small quantities at a time when needed.

My sheep are kept in sheds adjoining the barn. In June the manure is taken into the cellar, thoroughly pulverized, and mixed with an equal bulk of muck, when it is left to foment and decompose. Great care is necessary to see that the heat does not become too great and cause it to "burn." Water is thrown upon the heap when the heat becomes too great.

The soap suds and waste water from the house are made to contribute their store of riches to a heap of pulverized muck. The privy also is supplied with the same material. These two last make an excellent compost for the corn hill, and a large amount can thus be secured if proper attention is given to it. The muck used is thrown from its bed in summer and hauled during the leisure of winter.

That my way of making manure is the best, I do not claim. That it is a good method, I most heartily believe. That my practice is susceptible of improvement, I do not question. If it should receive criticism, I will not quarrel with the critic. That I make large quantities, the generous piles give evidence. That it is a good manure, the crops will testify.—*Z. A. Gilbert, in Maine Farmer.*

For the New England Farmer.

RECIPROCITY TREATY.

Among neighbors it is a point of honor never to interfere with another man's trade. We all have something to sell,—some manufacture, some produce, or our own labor. When we seek a market for our commodity we feel chagrined to find ourselves forestalled, the market supplied, and perhaps overstocked with articles from some unexpected source.

This has been the feeling among farmers along the Canadian frontier, when they have raised a variety of produce to sell to pay taxes, or to buy manufactured articles that have paid a government license, and are therefore high, and find the market dull and prices low for the articles they wish to sell. They feel that while other things are high, their produce ought to bring a good price also, but they see drove after drove of Canadian horses, cattle and sheep, with car-load after car-load of butter, oats, wheat and flour, all paid for in specie, and serving to depress American markets.

Although these importations and their effects bear more immediately upon the people near the frontier, yet the injury is a national one. The cities are the markets for the whole country, and the inhabitants thereof should be fed by the country to which they belong as far as the products will supply their wants. Still the buyers are not to blame for acting upon the principle of buying where they can buy the cheapest and selling where they can sell the dearest; and consumers, whether of foreign brandy and wines, or of mutton and beef naturally desire to pay as small duties as possible on things imported.

The Canadian Provinces are devoted almost entirely to agriculture. The climate and

soil is well adapted to raising grain and all animals. Their grain is as good as that raised in the States; their horses are notoriously hardy and smart; their mutton and beef is of prime quality, and their wool, known as the the Canada combing, brings the highest price in market. Now these things pay twenty per cent. duty in gold, fully equal at times to thirty per cent. in greenbacks, besides some extra freight. Now if this produce, by a reciprocity treaty, should come in free, the tendency would be to lower our prices thirty per cent. if the supply was great, or equal to half that, in any case. The supply is almost unlimited. This fall there was a drove of French cattle driven back and forth on the other side the line, and fifty of them were offered at seven dollars per head, rather than pay the duties across. None of these were calves, but young cattle, cows and oxen. Droves have been continually coming from Canada into the States, during the season. I consider the protection now given to farmers none too much; and that all the benefit of a reciprocity treaty would be to the manufacturer, for certainly Canadians do not wish to purchase our agricultural productions, and England can supply them with manufactured goods cheaper than they are generally produced in the States.

On no account re-enact the reciprocity treaty. The Canadian people seem to have no good will for, or sympathy with, the republicanism of our government. Indeed the evidences of a strong enmity have been manifested in years past, and need not be dwelt upon. Their farmers desire the advantages of the American market for their produce. Shall they have it on the same terms as those who pay the National debt? Z. E. J.

Irasburg, Vt., Dec. 23, 1868.

For the New England Farmer.

EUROPEAN BASKET WILLOW.

Having seen an article in the NEW ENGLAND FARMER of Dec. 21, in which remarks are made on the cultivation of what is there called "basket willow," by Mr. E. Hersey of Hingham, and as he has "no time to answer questions, except through the FARMER," I would, by your permission, use a small space in making the following inquiries:

What is the variety of willow referred to called by European growers and merchants and manufacturers of willow ware?

How long has he had experience in growing willow, and how many tons of willow has he grown, harvested and sold, or used in manufacture?

In concluding, how much can be realized per pound or per acre as profit? On how many years' growth on the same land has he made his calculation? and what did he allow for interest on land, manure, planting, weeding, cutting, pitting, peeling, drying, tying up in bundles, effecting sales, and last, but of most consequence, the clearing of the land and having it fit for other crops after the willow is no longer profitable?

We have had one "willow fever," but few who have been affected by it wish for a second attack; it may be, however, that we have not had the instruction we need, and as no wise farmer would plant land to a new crop that will carry fifty bushels of corn to the acre, unless he has reasonable ground to expect a corresponding amount of profit, many readers of Mr. Hersey's article will be grateful to him, if, by answering the above inquiries, he can assure them of success in the *cultivation*, *harvesting* and *sale* of said willow.

If for any reason Mr. H. does not see fit to answer the above inquiries in detail, it is hoped that he will make some reply to them, as we farmers now have time to compare experiences and prepare to improve our circumstances by planting the coming season such crops as may prove more profitable than corn.

I would also inquire if Mr. H. has cultivated more than one variety of European willow, and if so, will he say by what name it is known?

Dec. 28, 1868. SALIX.

FARM SLEDS.

CONSTRUCTION.—As to the length of a sled, no exact number of feet and inches can be given that would suit the masses of farmers, for those used for different purposes are made of different lengths. There is, however, one prevailing fault, and that is, not making them as long as they should be. Every farmer has, no doubt, noticed that when drawing logs, or "sled-length wood" the greater portion of the load comes upon the hindmost beam. Logs for the saw mill, twelve or fourteen feet long, have to be loaded so far forward that damage is very likely to result; the pressure of the log coming so heavy upon the pole that it is broken when turning around, or the sled chances to drop into a hollow.

The sled should be made the same width between the stakes, as that of the wagon kept, so one box may be used upon both. Use deep beams; it is but little more work to load a log upon a sled twenty inches high, than one fifteen, and the high sled will be found much more convenient when passing around in the woods.

The pole should be nine feet long from the doubletree to the end, and the doubletree set as far back as it can be, and not be liable to hit the end of the runner when in use. The closer a team is got to a load the better, providing they have free use of their limbs. A good rule is to set the doubletree eight inches front of a line from the front of one runner to another. The cheapest and best pole is made by framing it into the centre of the roller, and bracing with seven-eighth round rod. Square iron should never be used for braces in this place, for if anything should occur to bring

the horses upon them, serious damages might result.

For a heavy sled, the raves should be made of hard wood planks, one and one-half inch thick, and ten inches wide, allowing the outer edge of the plank or raves to come even with the ends of the beams, and bore the stake holes down through all. There are several advantages in putting on raves in this way; the beam ends are preserved from splitting out, as they are almost always found on sleds constructed in the ordinary way. By the raves running on a line with the ends of the beams, all liability is overcome of getting "stalled" in the woods by the sled sliding around when heavily loaded, and the beam-end catching upon a tree.

Another important thing in the construction of these useful farm vehicles, is, putting the roller into the runners at the proper point. If the roller is set too high, the draft is downward, if too low, the sled is lifted. In either case the draft is not direct from the seat of the load, and much more power is required to move a load than is absolutely necessary. Set the roller on a line with the upper side of the beams.

Oak, beach and white ash make the best runners. Hickory splits too easily, unless very tough. Red elm is best for beams, and tough white oak for pins. Sugar, or hard maple, makes excellent shoes, but the timber should be seasoned before used. Hickory makes the best roller.

When a farmer has purchased of a mechanic a nice iron shod sled, he gives it the same care that he does his wagons and carriages; they are housed and painted. But the plain, home-made sled, that we have been talking about, is apt to be neglected. There is just as much economy in painting a common wood-shod sled, as an other, and the durability is just as much increased.

Common yellow ochre, wet up with raw oil, makes a good coating for sleds; but if any one is opposed to the color, the shade may be varied by the use of venitian red. Add to each pint of the paint one gill of japan to make it set and dry good. If the sled is not painted entire, a good coat should be applied to the pins before driving them into the runner. It is at this point that they first give out, water is taken in at the joint and decay follows.—*Ohio Farmer.*

CARE OF STOCK IN WINTER.

Though not quite orthodox I am aware, I would like to inquire if it is not possible that we keep our stock too much confined in the stable in winter. Go into your stable some morning when the thermometer is about zero, say about sunrise or immediately after, and, unless your barn is warmer than most are in our vicinity, you will notice the cattle showing evident symptoms of being well chilled. Now just turn them into the yard, and, if the sun shines, see how soon they will find the sunny side of the yard, and will begin to stretch themselves and show increased comfort.

A neighboring farmer who always has sleek cattle, pursues this course. He feeds his stock their meal or roots early in the morning, without any hay, and turns them out about sunrise, and feeds hay either in the yard or at the adjoining stack—putting them back in their stalls as early as 4 P. M., stormy or extreme cold weather excepted, when they are kept housed most of the time. How is it with mankind? When do we enjoy the best health or appetite, when confined in-doors in an atmosphere artificially warmed with little or no exercise, or when out of doors, with a moderate amount of exercise, snuffing the keen, bracing north wind? I think, if I wished to fatten a bullock in the shortest possible time, I would pursue this course.

We well know that cattle will often eat in the yard what they will refuse in the stall—refuse hay or straw. What say you, brother farmers?—*W. J. Pettee, in Co. Gent.*

HISTORY OF THE LUNG PLAGUE,

OR PLEURO-PNEUMONIA.

The "Monthly Report of the Department of Agriculture for November and December" contains a somewhat lengthy report on the symptoms, character, &c., of this disease by Prof. Gamgee, addressed to Commissioner Capron. We copy his remarks on the history of the disease, omitting the particulars of its treatment in Massachusetts, as most of our readers are probably familiar with what was done here.

The contagious pleuro-pneumonia of cattle is a disease doubtless of the greatest antiquity. All reliable records point to the simple truth that has to be told of many contagious disorders, that it has travelled from the east westward. Older writers confound it with rinderpest, and a host of other maladies. It was only towards the end of the last century that the universal prevalence of the lung plague, wherever cattle were being driven to provide the many armies then stirring, led to its distinct and satisfactory description. Early in the present century it ravaged France, Belgium, Hanover, and Holland. England, isolated by the ocean, and the extreme north of Europe, alone remained free.

With peace came the development of new industries, and the most important in relation to the history of pleuro-pneumonia was the establishment in Germany, Belgium, and Holland of distilleries, starch and sugar manufactories, &c., the refuse of which it was found profitable to feed to stock. This led to great activity and important modifications

in the cattle trade, all favorable to intercourse between different countries and the dissemination of contagious disease.

Holland had long imported fat and milch stock from the Rhine provinces and other countries to the East. The malady was for six years in Belgium before it entered Holland. In 1835 it was transmitted from Guelderland to Utrecht. It reached South Holland immediately afterwards, and prevailed especially near the great cattle markets of Rotterdam and Scheidam. It then appeared whenever and wherever infected cattle were introduced into South Holland, the island of Zeeland, Drenthe, Groningen, and Overyssel.

By this time—1840-'41 and 1842—circumstances favored an agitation for the repeal of restrictions on free trade in cattle with England. The barriers to contagious disease fixed by our forefathers after the appearance of rinderpest in England were at last removed by Sir Robert Peel, and this caused the cattle traffic to grow apace from Central Europe through Holland to England. The great cattle-feeding province of the Netherland, Friesland, was alone infected with the lung disease when its people eagerly sought to supply British wants, and from that day to this has been constantly the seat of the malady.

Dutch stock first introduced the lung plague into the south of Ireland. It appeared in 1842, in London. In 1843 English cattle communicated the disease to Scotland, and ever since, with the exception of a period of cattle trade restrictions enforced for the prevention of the Russian murrain, has been the most widespread, as it has been, taking the entire period of its ravages into consideration, the most destructive of all maladies attacking British cattle.

From Holland the disease travelled to the Cape of Good Hope, and from England at various periods it was communicated to Sweden, Oldenburgh, the Australian colonies, and other parts of the world.

History of the Lung Plague in America.

The first notice of the lung plague in the United States dates back to 1843, when a German cow, imported direct from Europe, and taken from shipboard into a Boooklyn cattle shed, communicated the disease, which, it is said and believed, has prevailed more or less in Kings county, Long Island, ever since.

In 1847 Mr. Thomas Richardson, of New Jersey, imported some English stock. Signs of disease were noticed soon, and the whole of Mr. Richardson's stock, valued at $10,000, were slaughtered by him to prevent an extension of the plague.

In 1850 a fresh supply of the lung-plague poison reached Brooklyn from England in the system of an imported cow.

Mr. W. W. Chenery, of Belmont, Massachusetts, has related the history of the introduction of lung plague from Holland into Massachusetts in 1859. Four cows were purchased for him at Purmerend and Beemster, shipped at Rotterdam early in April on board the barque J. C. Humphreys, which arrived in America on the 23d of May, 1859. Two of the cows were driven to Belmont; the other two had to be transported on wagons, owing to their "extremely bad condition," one of them "not having been on her feet during the twenty days preceding her arrival." On the 31st of May, it being deemed impossible that this cow could recover, she was slaughtered, and on the 2d of June following the second cow died. The third cow sickened on the 20th of June, and died in ten days. The fourth continued in a thriving condition. A Dutch cow, imported in 1852, was the next one observed ill, early in the month of August following, and she succumbed on the 20th. "Several other animals were taken sick in rapid succession, and then it was that the idea was first advanced that the disease was identical with that known in Europe as epizootic pleuro-pneumonia." Mr. Chenery then did all in his power to prevent the spread of disease from his farm. The last case at the Highland farm, Belmont, occurred on the 8th of January, 1860.

In June, 1859, Curtis Stoddard, of North Brookfield, bought three young cattle, one bull and two heifers, from Mr. Chenery. One calf showed signs of sickness on the way home. Leonard Stoddard, father of Curtis, thinking he could better treat this sick calf, took it to his own barn, where he had forty-eight head, exclusive of calves, and with which the calf mingled. One animal after another was attacked, till the 12th of April, when thirteen head had died, and most of the remainder were sick. The disease continued to spread from farm to farm as rapidly as circumstances favored the admixture of stock. The period of incubation in well defined cases varied from nineteen to thirty-six days, and averaged twenty-six and two-thirds days.

The people of Massachusetts, a little slow at first, overcame the delays incident to legislation, and established a commission for the purpose of exterminating the disease. * * *

From numerous inquiries there is not the slightest doubt in my mind that the lung disease continued, ever since its first introduction, to attack some of the numerous dairies on Long Island. One of the best informed dairymen in Brooklyn informed me that, three months after starting in business, sixteen years ago, he lost eleven out of twelve cows he had purchased in Newark, New Jersey. He bought more and began to inoculate with excellent results. Other people were losing, and he established himself on Jamaica Pond to be clear of every one. When he stopped inoculating the disease reappeared. Mr. Benjamin Babbit, of Lafayette avenue, was the first to inoculate after the introduction of this practice in Europe, and many dairymen adopted it.

The board of health opposed the practice, as many of the cows lost portions of the tail, and reports were made of blood and matter finding their way into the milk-pail. The disease has never ceased, and I have visited many dairies, in all of which at one time or another and in most of which during the present year, the disease has prevailed. In five dairies I examined, within 100 yards of each other, I found one or two sick cows in each. The Hartford Insurance Company, which has recently suspended operations, lost heavily on the insurance of cows from the prevalence of this disease, and that company objected also to the practice of inoculation.

From Mr. Bedell's statement, there is no doubt of the existence of the contagious pleuro-pneumonia in New Jersey when he first bought his cattle. Mr. Robert Jennings, veterinary surgeon, had his attention drawn to the disease on its appearance in Camden and Gloucester counties, New Jersey, in the year 1859. In 1860 it crossed the Delaware river into Philadelphia, spreading very rapidly in all directions, particularly in the southern section of the country known as "The Neck"—many of the dairymen losing from one-third to one-half of their herds. The sale of sick cattle continued, as it always does, unless prevented by rigid laws. In 1861 the malady appeared in Delaware, and in Burlington county, New Jersey, and the disease could be distinctly traced to the Philadelphia market.

The records of outbreaks are by no means satisfactory, but a gentleman well known in Maryland, Mr. Martin Goldsborough, informs me that the malady has been very destructive on many farms of that State for the past three years. Individuals have lost their entire herds, in some cases numbering 24, 30, and as high as 47 head. Last year an effort was made to direct the attention of the legislature in Maryland with a view to the adoption of successful measures, but without effect. Mr. Goldsborough's statement is to the effect that the disease in Maryland is due to the purchase of cattle in the Philadelphia market.

There is no doubt of the great prevalence of the malady for some years in Philadelphia. I have seen it on two farms in Delaware county, and it has been on several others recently. Bucks county has suffered much for two years. A correspondent informs me that in March, 1867, a drove of cows was taken into that county, and one of them was observed sick. These animals were distributed among the farmers and soon the plague appeared in all directions. An effort was made then to secure the aid of the State legislature, without effect, and to this day the disease is in Bucks county. The last case I have to report is at Newtown, Bucks county, where the disease was introduced by cows bought in the Philadelphia market.

I can corroborate the statements made as to the sale of cattle that are infected. Not only has this occurred often where the disease has been most rife for years past, as on Long Island, but recently, in making inquiries in Delaware county, Pennsylvania, I learned of three cows which had been sold "healthy" (?) out of an infected herd. Such a practice explains the progress of the disease further south than Maryland.

I recently visited the dairies of Kendall's Green and Georgetown, near Washington, and found that last year the cattle had been nearly entirely exterminated by the disease—so much so that to the present day the poor people who keep only one or two cows are afraid to buy and in constant fear lest the malady should return.

Three years since the lung plague appeared in Alexandria county, Virginia. It has been steadily on the increase ever since, and continues to the present day.

I have been informed that the malady has travelled as far west as Kentucky and Ohio, but of this I have not been enabled in the brief time since I commenced the inquiry to obtain satisfactory evidence. I have taken some pains to ascertain if the disease had reappeared in Massachusetts, and personal inquiries in various parts of the State show that it is quite free from the disease,—thanks to the energy of its people and the enlightened action of its legislature.

Of all the cattle diseases pleuro-pneumonia is in the long run the most destructive, because the most insiduous and the least likely to rouse people to united action for its effectual suppression. To ignore its presence is, however, to insure that the cattle mortality of America, like that of England, will be at least doubled in a few years' time. Rational means, energetic action, and earnest co-operation between the different States and the central government may, with a moderate expenditure now, save many millions annually in the not distant future.

PHOSPHATIC DEPOSITS.

We have forborne any notice of the remarkable discovery of phosphatic deposits in the neighborhood of Charleston, South Carolina, lest we might help to give currency to what seemed very exaggerated estimates of their value, and forward the aims of speculators. There is no longer, however, reason to doubt that the truth has hardly yet been told of them, and of the great wealth which underlies thousands and thousands of acres along the Ashley river. They are known to contain millions of tons of fossilized bones, the tusks of elephants, mammoths, hippotami, the teeth of sharks, and a multitudinous variety of irregularly shaped phosphatic nodules of animal origin, underlying the surface soil, and averaging in many places a foot in thickness. After removing the surface soil, quantities of brown phosphatic nodules worn into water holes and

bearing the imprint of marine shells are first reached. Beneath this deposit is a stratum of stiff blue clay eighteen inches thick, and below this again another layer of the same thickness of bones and nodules—many of the bones being of enormous size and indicating a period of the world when the Icthyosaurus, the Plesiosaurus and Megatherium lived and flourished and the sea covered many fathoms deep what has since become, either by gradual upheaval or by some sudden cataclysm, dry land. Below the last-mentioned stratum lies a bed of white marl unusually rich in phosphoric acid and which, therefore, also constitutes an excellent fertilizer, although less valuable than the superincumbent deposits of phosphates. Practical experience has demonstrated the fact that the phosphatic deposits of South Carolina are of unusual commercial importance.—*American Farmer, Baltimore.*

STALL-KICKING HORSES.

No worse habit can be formed by a horse in the stable than that of stall-kicking, and as soon as one is detected in the act, some means should be used to prevent its continuation.

The kicking is usually done with one foot at a time, and from different causes; sometimes fright, at others viciousness or disease; usually the latter. When a horse has stood for a considerable length of time in the stable, or has been driven in the mud, the legs of the animal become fevered, and the skin irritated, unless the groom is very particular in his work. When the legs are thus affected a smarting sensation is created every time the horse urinates by the water spattering on to his legs, and so acute is the pain that he bounds around the stable pawing and kicking as if standing in fire.

A few years ago we kept a horse which, although spirited, was one of the kindest and most obedient animals that we ever drew rein over. This horse would never relieve himself in the stable so long as it was possible for him to contain, if not well bedded, and we have had the weather-boarding entirely knocked off from the barn, next to the stable, when we have neglected to litter the floor well beneath him. If a plenty of bedding was supplied, he always stood perfectly quiet. When a horse kicks in the stable from the cause just mentioned, the best remedy is to bed well, clean the legs thoroughly every day, and apply to them some soft grease or healing ointment. The legs may be badly affected by some skin disorder, and go unnoticed for weeks, unless a close examination is made.

We have no doubt but that some horses acquire the habit of stall kicking, from being compelled to stand upon badly constructed stable floors. When forced to stand upon an acclivity, even if very gradual, such stress is brought upon the muscles of the hind legs that they become painful, and for relief the horse kicks first with one foot and then another. Before a man chastises his animal for bad habits, he should detect the cause of the misdemeanor, and ten chances to one if he don't find himself more in fault than the horse.

When it is positively known that the kicking is done from maliciousness—which is very seldom the case—confine the horse in a stall just wide enough to admit of his lying down and getting up, and plank up the sides of the stall so that his heels cannot force the wall away. In such a place the habit will soon be given up, as the animal will notice that nothing is accomplished by its efforts.

A writer in one of the British journals is of the opinion that stable-kicking is sometimes caused from itching. If this is true, it is, of course, particularly the case whilst the dietary is dry and stimulating, as is apt to be the case with hard worked and grain-fed horses in the winter.

If such itching is suspected, give the animal a small dose of aloes, allow an ounce of nitre every week or ten days in a mash, supply daily a few roots or some bran, and in cold frosty weather avoid wetting the horse's limbs, which can be kept perfectly clean with the use of the wisp and dandy brush.—*Ohio Farmer.*

RAISING CALVES.

At a late meeting of the Franklin, Mass., Farmers' Club, the President, Phineas Stedman, Esq., after advising farmers and dairymen to raise their own calves, gave the following as his method:—

The calves may be most economically fed by taking them from the cow during the first week. Having learned to drink new milk readily, skimmed milk, warmed to the temperature of new milk may be substituted gradually until, at three weeks old, the new milk may be withheld entirely. Oil meal and wheat bran should now be given, commencing with a table spoonful once a day. This should be scalded and allowed to stand a short time to swell. After a few days, the provender may be given at each meal, and the quantity increased at discretion. It is of the utmost importance that calves, and indeed all young stock be kept in a thrifty, growing condition. It is much easier and cheaper to keep a young animal growing, than to bring it again into a flourishing condition after it has, by want of care or proper food, been allowed to stop growing. I prefer to rear calves which are dropped in autumn or early winter. At this season they are likely to receive better care, are better prepared to bear the cold of the succeeding winter, and until they arrive at maturity, hold an advance of several months, in age and size, over those which are dropped the following spring, while always classed of the same age.

OLD FRIENDS.

A few days since, an express man brought us a bundle which proved, on examination, to contain Vols. I and II of the NEW ENGLAND FARMER, published by Thos. W. Shepard, Rogers' Building, Congress St., Boston, and covering the period from Aug. 3, 1822, to July 24, 1824. These complete our file, from which, for several years, those volumes have been missing. The friend to whom we are indebted for this favor, in a brief note accompanying the gift, says:—

"I send you the first two volumes of the NEW ENGLAND FARMER because your claim to them is better than mine. But I shall esteem it a favor, if you shall supply yourself with like numbers from another source, for you to return the sacred volumes to one whose claim to them is second only to your own."

We wonder not that our friend places so high a value upon these relics of the past. Their pages tell many a strange story of the times fifty years ago, when agriculture was almost in its infancy in this country. The "patent plough" figuring in the advertisement of the "Agricultural Establishment, No. 20 Merchants Row," for instance, would make a curious figure beside one of the highly finished, beautifully shaped implements of to-day. Other implements and tools mentioned in the same advertisement have years since disappeared before the march of improvement in their field.

Another instructive fact is the difference in the prices of farm produce then and to-day. A concise table gives the rates of leading articles in this market, from which we quote a few items:

Beans, ℔ bu.	90 @ 1 00
Beef, best, ℔ lb	8 @ . 10
Butter, first quality, ℔ lb	11 @ . 12
" second do., ℔ lb	9 @ . 10
" lump, retail, ℔ lb	18 @ . 20
Cheese, new milk, ℔ lb	7 @ . 8
Flour, Genesee, ℔ bbl.	7 75 @ 7 87
Eggs, ℔ doz.	14 @ . 15
Pork, fresh, ℔ lb	7 @ . 8
Lamb, ℔ quarter	30 @ . 45
Potatoes, ℔ bush.	45 @ . 47
Poultry, ℔ lb	10 @ . 14
Wool, Merino, ℔ lb, washed	55 @ . 60
" native, ℔ lb, washed	37 @ . 40
Hay, ℔ ton	18 00 @22 00

It will be seen that, with very few exceptions, the prices of farmers' produce were much less than at the present time, while the custom of trade was such that the farmer was obliged to take most of his pay in "store pay," or barter. The FARMER was then published on a sheet less than one-third its present size, and its price was $3.00 a year, or $2.50, "if paid within sixty days." Taking butter as a standard, the farmer of those days who felt interest enough in his calling to support a paper devoted to its improvement, sent 20 pounds of his prime butter for his year's subscription. To-day, from 5 to 6 pounds is all that is required, and there are plenty of customers ready to take it at his own door, and pay him in cash, too, so that the printer is not obliged to play the part of "middle man."

We are under obligation for this most acceptable donation of our friend, whose name we withhold simply because we think such reserve more in accordance with his wishes. If any of our readers has in his possession the volumes of the FARMER, first series, for the above period, which he will dispose of, we would like to hear from him.

AMERICAN DAIRYMEN'S ASSOCIATION.

The fourth annual meeting of this society was held at Utica, N. Y., Jan. 13 and 14. From a report in the *Herald*, of that city, we learn that the attendance throughout the session was very full and the dairymen generally express themselves as highly pleased with the success of the convention, which has been more marked than at any previous one.

Many topics of interest to dairymen were discussed, to some of which we may allude more fully hereafter.

Resolutions were adopted requesting the Government to include cheese in the army and navy rations; requesting Congress to furnish such aid to the Department of Agriculture as may secure the regular publication of information regarding diseases of animals, and the adoption of means for the prevention of such diseases; changing the constitution so that all the States might be represented; referring the question of abortion in cows to the trustees of the Cornell University, and requesting them to institute a careful and thorough investigation of the malady,—its probable cause —its prevention or cure. Also, that the trustees of the said University furnish to the Association full information respecting the chemical properties of milk and of rennet.

The annual address was delivered by Prof. Gamgee, of the Veterinary College, London, on the evening of Wednesday, to an audience that filled the largest hall in the city. The

subject of his lecture was "The Diseases of Cattle and the influence of those Diseases on Milk." We have not space for any abstract of this address, which is given in full in the *Herald*.

Some idea of Prof. Gamgee's knowledge of his subject, and of his ability as a writer, may be formed from the extract we publish in another column from his report to the Agricultural Department.

Officers for the year were elected, as follows:—

President—Horatio Seymour, of Oneida.
Vice-Presidents—T. G. Alvord, of Onondaga; L. L. Wight, of Oneida; S. T. Miller, of Lewis; A Barnham, of Chautauqua; John W. Bush, of Chemung; B. G. Moss, of Green; C. E. Chadwick, Canada West; N. Dwight, Mass.; W. G. King, Illinois; A. Bartlett, Ohio; R. C. Wickham, Vermont; T. S. Gold, Connecticut; E. H. Wilder, Wisconsin; S. Howard, Michigan; N. W. Woodbine, North Carolina; J. Stanton Gould, Poughkeepsie; M. J. Harden, Kentucky.
Secretary and Treasurer—Gardner B. Weeks, of Syracuse, N. Y.

WOOL AT THE CUSTOM HOUSES.

The attention of Dr. Randall, as President of the National Wool Growers' Association and by virtue of his office as representative of the interests of the wool growers of the country, has been called to the fact that invoices of foreign wool finer and different in other particulars than the carpet wools described in the tariff act as admissible in the third class, at three and six cents duty, have been offered at the Custom Houses. We learn by an article in the last *Rural New Yorker*, that this information was communicated to Mr. Randall at the same time, and as soon as such wool was offered, by the respective appraisers in Boston and New York, and without any concert of action between these gentlemen. Both of these appraisers believed that the wool alluded to should fall in class one, under the clause in the law which includes in that class "all wools not described or designated in the other classes."

Dr. Randall says, "these 'very fine carpet wools,' as those who handle them would fain term them, are severally applicable to the manufacture of the lower grades of cloth, cassimeres, satinets, &c., and perhaps some of them can be used as combing wools. They are sometimes mixed in the same bales with true carpet wools. To an unskilled observer they might appear to be the same. A custom house officer, inexpert in his duty, or ready to commit a fraud, might pass them for the same. No important amount of this wool has yet been imported, but rumors have reached us that more of it is to arrive. It is said that a large Boston house has a partner or agent looking after such wools in Europe, in the full expectation that they will pass the Boston Custom House, at three and six cents duties, as carpet wools." We must again repeat the question, Is this a good time for wool growers' associations to go to sleep?

SMUT ON CORN.

The newspapers have reported the death of cattle in different parts of the country, supposed to have been caused by eating the smut which is said to be unusually abundant on corn this year. Many Western farmers, however, do not believe that these deaths were caused by the smut. A correspondent of the *Prairie Farmer* suggests that over eating of dry stalks without sufficient water to moisten them is the true cause. Of a drove of cattle which were turned into a field of fifteen acres after harvesting, twenty years ago, in which there was no water, and in a very dry time, eleven died in two or three days. On examination, the mainfold in every case was full and tight with dry corn fodder. The cattle, being let into a new kind of perfectly dry food, had gorged themselves. Having no water to aid the gastric juice, the mainfold had become perfectly exhausted from incapacity to soften so large a quantity of dry fodder; inflammation, stupefaction and death followed. Many cattle in the same county died that fall from the same cause. The preventive adopted was not to allow cattle to remain long on such large quantities of dry fodder, and to have them fully supplied with water, before and after going into the field.

Another farmer was very careful this fall while husking his corn to throw out all the smutty stalks, and pile them on one side of his barn out of the reach of his own stock. One of his neighbor's cows, however, got to the heap and has eaten of it for the past six weeks, and thrives well. He therefore doubts whether smut is ever injurious to cattle.

PURE BRED STOCK. — We learn by the *Country Gentleman* that Mr. C. Horace Hubbard, Springfield, Vt., has purchased from the well known Short-horn herd of Paoli Lathrop,

South Hadley Falls, Mass., the sister heifers *Yarico 55th* and *56th*, by Marmion, 1843, out of Yarico 19th, and *Romance* by Autocrat 2d, 5335, out of Yarico 55th; also of Henry M. Arms, Springfield, Vt., the bull calf *Richelieu*, by 4th Lord Oxford, out of Victoria.

Mr. J. O. Sheldon, Geneva, N. Y., has sold the *Short-horn* bull *5th Duke of Geneva*, to Mr. Edwin G. Bedford, Houston, Ky., for $3000, and ten animals to Col. W. S. King, Minneapolis, Ind.

Mr. John D. Wing, Duchess County, has sold to H. S. Parke, Bay Side, the *Jersey* heifers Fleda and Frolic and bull calf Saratoga, Jr.; and to Geo. I. Seney, New York, the cows Kathleen and Hattie.

BERKSHIRE COUNTY, MASS.—The Agricultural Society of this county was incorporated in 1811, and is still one of the best managed in New England. It pays all premiums offered, and has between two and three thousand dollars in cash in the locker. At the annual meeting at Pittsfield officers were elected for 1869, as follows:—

President—Richard Goodman of Lenox.
Vice Presidents—George T. Plunkett of Hinsdale, J. H. Crooke of Pittsfield.
Secretary—J. E. Merrill of Pittsfield.
Treasurer—H. M. Peirson.
Auditor—Phineas Allen.

We alluded recently to the vote of the Society abolishing all premiums on horse-racing under the name of trials of speed, and also to its action for the protection of farmers against imposition in the purchase of commercial manures.

WINDSOR COUNTY, VT.—We learn by the *Vermont Standard* that at an unusually large meeting of the members of the Agricultural Society of this county, Jan. 19, the following officers were elected for 1869:—

President—Henry Safford, of Springfield.
Vice Presidents—I. T. Tucker of Royalton, Justin F. McKenzie of Quechee.
Treasurer—Lorenzo Richmond of Woodstock.
Secretary—Lorenzo Kent of Woodstock.

THE POTATO MANIA.—The *New York Sun* says "we have had tulip mania, morus multicaulis mania, but who ever heard of a potato mania?" We supposed that everybody except very young folks remembered the Rohan potato mania, to which the present disease is very similar. It says, "Last Spring the Early Rose Potato sold readily in New York at $3 per pound or $120 per bushel; but this is nothing in comparison to the price at which a new competitor for potato fame is now being sold to some of our speculators in this esculent. Here are the prices of a few *bona fide* sales in the past week, and we assure our readsrs that there was no discount for cash or cow in this transaction; sixteen potatoes brought $825; twelve potatoes brought $615; one potato brought $50; one was traded for a good cow valued at $60.

MISTAKES OF SHEEP FARMERS.

A large class of sheep farmers have made two or three mistakes, and now threaten to make another. They had not firmness enough to go through a pinching time in the wool business without becoming discouraged, and to a greater or lesser degree *sacrificing* their flocks. Sheep that would have before long been in good demand, and brought a remunerating price to those disposed to sell, have been recklessly crowded off at less than the value of a single fleece, to be killed for their pelts with less than half a year's growth of wool on them. Secondly, many that have retained flocks have abandoned improvements on them; bred them, the past fall, to rams of inferior quality, or made the most irrational crosses. Third, not a few farmers, we are told, in certain portions of the country, are preparing to make another egregious mistake—namely, to give their sheep an excessively poor wintering, feeding them very scantily and compelling them in a great measure to shift for themselves.

The folly of this last procedure is fully equal to that of either of the others; and it is barbarous as well as foolish. If sheep are worth wintering, it is certainly more profitable to give them a full supply of food, and thus preserve their lives and obtain their full amount of wool and lambs next spring, than it is to go to half the same cost for keep and have half or more of the sheep perish in March—lose half the value of the wool and nearly the entire drop of lambs. We question the moral right of any man thus purposely and without actual necessity, to subject to slow starvation and long protracted suffering any animal, and especially any domestic animal. And what shall we say of its humanity? Whoever has seen a flock perishing in March, from starved wintering, can bear witness to the utter misery of the spectacle. Human beings *seem* to suffer no more. Does the prayer, "that mercy I to others show, that mercy show to me," include nothing in its scope but men and women?—*Rural New Yorker.*

SAVING FLOWER SEEDS.—The seeds of such flowers as are liable to be scattered and lost to the raiser, as the pansy, for instance, may be kept for use by tying a bit of muslin around the seed-bud before it ripens and opens.

DOMINIQUE SHANGHAI.

The fragments of the writings of distinguished men are sometimes collected together and given to the world as "Unpublished Manuscripts." As a fragment of that great event, the Hen Fever of 1852, we present this month, the above illustration as an "unpublished cut." It was engraved to illustrate the text of a work on poultry, which in consequence of the sudden abatement of that fever was never published. It is well seasoned, and is too good to be lost; as it was drawn from life, and truthfully represents one branch of the Shanghai family, although the leg feathers, which were a characteristic of the Grey and other varieties of the Chinese fowls, are wanting. Our cut, we believe, was drawn from a pair of fowls of the importation of Dr. Kerr, of Philadelphia, made in 1847, and bred by Mr. P. Melendy, now of Iowa.

As a memorial of this once famous breed Mr. Bement closes his account of them, in his *American Poulterer's Companion*, with the following remarks:—"It was the Shanghai which created the "Fowl Fever," a few years since, and it was on the Shanghai that the bubble burst. They are no longer the aristocracy of the fowl-yard; their day has passed, their race is run."

For the New England Farmer.

SUPERPHOSPHATES AND OTHER CONCENTRATED MANURES.

FRIEND BROWN:—During the two days and evenings of the "Farmers' Convention" at Manchester, N. H., last week, the subject of commercial and artificially prepared manures, was pretty fully discussed. The amount of money annually expended by the American farmer for guanos, superphosphates, poudrettes, ground bones, fish pomace, and other concentrated manures, in the aggregate, is a vast sum.

From the best information I can obtain, I think their use is annually upon the increase, and the inference is that farmers, upon the whole, find the purchase and application of them to their land a profitable investment; though occasionally the use of them disappoints the expectations of the farmer. Such

cases may be caused by the use of a poor article of superphosphate or other nearly worthless trash, palmed off upon him by an unprincipled manufacturer or dealer in the article—and, sometimes, a good and really valuable concentrated manure may fail in increasing the crop by injudicious application. Such cases I have known in the use of guano and superphosphate, where the seed, when planted or sown in immediate contact with these powerful manures, failed to "come up"—or if they did come, their growth was greatly retarded.

Before the Southern rebellion, Peruvian guano was sold at about $60 per ton, and large quantities were annually used both North and South—more especially in many of the older Southern States—for the wheat crop.

More than twenty years of carefully conducted experiments by Mr. Lawes, and the practical results of thousands of farmers in England, prove beyond all question, that for the production of maximum crops of wheat a full supply of nitrogenous manures is essential. Mr. Lawes has furnished his wheat crops with this supply by the direct application of about 150 pounds each of sulphate and muriate of ammonia per acre. This, probably, would be found too expensive for our farmers. Probably the cheapest source from which our farmers could obtain it, would be in the purchase of a prime Peruvian guano, which contains from fourteen to eighteen per cent. of nitrogen, besides phosphates and potash. This guano is now quoted in Boston price currents at $100 per ton, in greenbacks. The average increase of wheat by the application of 100 pounds of guano in England, is estimated at three bushels, or nine bushels per acre from 300 pounds of guano. If it will do that here, (at the price of flour for several years past), *we think it will pay*, even at the present price of guano. Nine bushels of wheat will make two barrels of prime flour—worth here $15 per barrel—300 pounds of guano, freight and application, will cost, say $17, leaving a profit of $13 on the purchase of the guano. It is said, figures don't lie. Perhaps some may say these do. Well, if there are any such doubters, I will have no controversy with them, but will make another statement that will not be discredited, viz: that the people (including farmers) of New England do annually pay out millions upon millions of dollars for Western and other brands of flour. How they manage to meet such drafts upon their pockets, is a question, more easily asked than answered.

There are great numbers of farmers in many sections of New England who have for a long series of years successfully grown both fall and spring sown wheat, never having purchased a barrel of flour in their lives. What these farmers have done, thousands of others can do, if they will set about it in "*right good earnest.*"

But to go back to superphosphates. Within a few years past, there have been numerous manufactories of superphosphates established in this country, many of them requiring a large money capital in erecting suitable buildings and the necessary fixtures, and most of them, it is presumed, are intended as "permanent institutions." This, however, will depend very much upon the quality of the article they put into the market. Self interest, however, will prompt them to furnish the farmers with a No. 1 superphosphate, if they can. What is generally understood to be a true superphosphate of lime is composed of pure animal bone and a certain per centage of oil of vitriol, (sulphuric acid).

I have within the past two years experimented with about fifteen different brands or kinds of superphosphate. In colors ranging all the way from the deepest black to white, and in odor, from the most offensive to that which was scentless. Why such difference? We common farmers cannot tell. We think, however, that the offensive odor of some superphosphates is not a safe criterion whereby to judge of its true manurial value. On my farm different brands have exhibited different results. Some kinds greatly increasing the growth or yield of crops over others—perhaps on other soils the effects might have been the reverse. The safest way for farmers is to experiment in a small way with different brands, side by side, on their different soils and crops; by so doing, they may perhaps escape serious loss.

In illustration of the foregoing, at the New Hampshire Farmers' Convention last week, Jos. B. Walker of Concord, read at the meeting a very able essay on the culture of "Indian Corn." In speaking of concentrated manures for that crop, he said, in 1867, he used three different brands of superphosphates,—two of them proved first rate, the other was worthless. He was asked whose brand it was that proved worthless. He declined answering the question. The past season he grew over four acres of corn on the "Concord intervale." About one-third of the corn was manured in the hill with hen manure; the balance with Andrew Coe's superphosphate. That portion receiving the phosphate was decidedly the best, the yield being much larger, and the corn sounder and better matured.

Last spring, S. C. Pattee, one of our best and most intelligent farmers, experimented with a large number of concentrated manures on his corn crop, on inverted sod, no other manure applied to the land. He used eight kinds of superphosphates; seven of them did well,—one nearly worthless. Besides the phosphates, used fish pomace, hen manure, night soil, &c. The phosphated rows ripened in advance of the three last. He gave some of the superphosphates to farmers in his neighborhood. The effects were similar to those on his farm. Phosphates applied to the

hills of his potatoes doubled the crop,—and no appearance of rot among them.

There was one brand of superphosphate that gave the best returns, considering the yield of corn and price of it. This year he and some of his neighbors will *club* together and purchase the desired quantity they wish to use direct from the manufacturer, strong in the belief that they will get their money's worth.

For the perfect growth and maturity of our cultivated plants, there are required definite proportions of mineral substances,—viz: potash, soda, sulphur, iron, magnesia, silex, and last, but not least, phosphoric acid and lime; and all the above named are derived from the soil; and they, too, are also absoutely necessary in the growth and well-being of animals. But in different relative proportions from what they are found in plants, from which the animal obtains them.

Said Liebig, "were it possible for a plant to grow, flower and bear seed without the operation of mineral matters, it would be utterly valueless to man or animals."

The potash, soda, sulphur, iron, &c., that enter into the composition of animals, are but "as drops in the bucket," when contrasted with the amount of phosphoric acid and lime required to build up the bony frame-work of "man and animals."

Prof. Liebig says, "In an ox, of 550 pounds weight there are 183 pounds of bones, containing nearly 120 pounds of phosphate of lime; in the flesh, hides and other parts of the animal, fifteen pounds of phosphates."

Now every ounce of the bones of land animals is derived, indirectly, from the soil; and how small a portion of these bones ever find their way back to the soil, where they can become available to the reproduction of succeeding growths of plants.

I think but few, if any, of our people are aware of, or ever give a passing thought respecting the incalculable amount of phosphoric acid and lime—annually abstracted from our American soils and garnered up in the bones of our domestic animals—and never again to find their way back whence they came. Such a depleting system, will sooner or later, exhibit itself in a way that can neither "be hushed up, nor coughed down."

From a review of the New York live stock trade of 1868, I find that there were received at the cattle yards of that city, during the year just closed, 293,101 beeves; 5,382 milch cows; 82,935 veal calves; 1,400,623 sheep and lambs; 976,511 swine. Taking Liebig's estimate of phosphate of lime "in an ox of 550 lbs., any one expert in figures can pretty accurately, or approximately, determine the amount of phosphate of lime received at New York in 1868 in these 2,758,512 domestic animals.

LEVI BARTLETT.

Warner, N. H., Jan. 8, 1869.

EXTRACTS AND REPLIES.

MANURING SWARD LAND.

I wish to inquire of Mr. Brown which he thinks the best way to apply barn cellar manure, in the spring, in its green state, on broken up ground, for a corn crop, and plough it under the sod,—or spread it on top, on a moist, heavy soil? J. V. A.

West Concord, N. H., 1869.

REMARKS.—There is no settled practice in this matter. Some of our most successful farmers haul the manure directly from the barn cellar, spread it upon the sward and plough it under from five to eight inches. This is done on many farms about us, where excellent crops of corn are annually raised. Our own practice is,—

1. To allow no long or coarse materials to go into the manure heap.

2. To get the manure out into the sun and rain sufficiently early in the spring to overhaul it and get up a slight fermentation; then a second overhauling will reduce it so that it can be comfortably shovelled.

3. Apply it broadcast to the surface—whether on sward or stubble ground—and work it under with the cultivator, just deep enough to cover it.

4. With this, apply home-made guano, ashes, or something else to the hill; plant from the 20th to the 30th of May. Keep the surface light, all weeds out, and on a good soil you will rarely, if ever, fail of reaping an abundant reward for all your labor.

It may be objected that ploughing the manure under will disturb the sod. If the soil was well turned and five inches thick, it need not be turned up. If the ground is quite rough, and cannot be smoothly ploughed, perhaps the manure would be better applied upon the surface before ploughing. Differing circumstances require different practice.

GO WEST, OR STAY AT HOME?

Will you give me your opinion if it is advisable to go out West and purchase a farm of unimproved, new land, and pay $10 an acre, or buy one here at the same price, that is improved, and with buildings, but where the land is nearly run out?

Wrentham, Mass., 1869. G. W. I.

REMARKS.—Having had no experience of life on a Western farm, our opinion would be worth little or nothing to our correspondent. We suppose, however, that a man of energy, skill and good habits, would do well in either place. We commend the following story from the *N. Y. Tribune*, written by Mrs. Sophia Cunningham, Freedom, Ill., to our friend. If he and his wife have pluck enough to bear the "breaking in," and never say homesick, they will doubtless succeed.

We were just married when we came here, with but $700 and a good name. Paid $520 for a quarter-section, and with the remainder built a small house and got a small amount of furniture. As soon as we were settled, husband commenced teaching for $17 a month, two miles away, and came home nights. These were the darkest days; among strangers, on the wild prairie; not a tree or shrub, and no road by the house. Over across the slough I could see three Irish houses,

but could not get to them—I tried it. When the warm spring days came the prospect brightened, but husband was obliged to send East and hire $500. We worked hard and fared hard. I felt the privations very keenly, but I think they strengthened me; I never gave up or said I was homesick. We enlarged our house, and when we had been here six years, built a new house, where we now live. We have a pretty place and a fine orchard; we have our carpets, and even piano. We sometimes go back to our old home; husband has been four times; but we like the new home much. The best I will not tell—that is, what our income is; but it is several times the little capital we brought. We have two healthy boys and good neighbors.

COMPLIMENTARY—A CANADIAN'S VIEWS.

I have long had quite an inclination to express myself a little. As we all admire your FARMER, allow me to say so. Its faults, if it has any, are so few that just now I don't remember any of them. Your articles on Agricultural Societies, Tim Bunker Papers and Greeley's Deep Ploughing, were excellent.

But my present point is this, you States people do not give us Canadians quite fair treatment. We are a good deal misrepresented in many things. Some of your scribbling tourists draw much more on their imaginations than on their regard for truth, as I might illustrate. You don't understand "the crusade against American silver," or rather all silver. Some of your correspondents are not informed thoroughly on both sides of "all that Canadians have said and done during the last few years."

Now if it would not displease you to hear a little plain talk in a friendly way, I will now and then give the Canadian view of some of these things, and among them the wool and tariff questions.

Stanstead, Can., Jan. 16, 1869. J. G. FIELD.

REMARKS.—Remembering "that he that is first in his own cause seemeth just, but his neighbor cometh and searcheth him," and desiring to "see ourselves as others see us," a little of our Canadian friend's "plain talk" we think will be good for us to take. By all means, then, give us your views.

HABITS OF FINE AND COARSE WOOL SHEEP.

Having been a subscriber to and a reader of the weekly NEW ENGLAND FARMER, for the last twelve years, with the exception of 1861 and 1862, I have become very much attached to it, as I have never received a copy that did not contain something fully worth the price of a number, and sometimes a great deal more. I have become particularly interested in that part that comes under the head of Extracts and Replies.

Noticing the discussion going on in regard to the habits and character of different breeds of sheep, I thought I would give you my experience with them. I first commenced with the Merino sheep, keeping a flock of from 180 to 200 for a number of years. I never found any trouble in making them tame and gentle when I was alone with them, but if a stranger went with me to see them they would stick up their heads and run like so many deers. As to their jumping fences, they never troubled me; but they would search out holes and crawl through the fence, and in that way get out of their pasture altogether too often for my patience to endure it. The pasture where I kept them was fenced on three sides with brush and pole fence, and they would crawl through a hole my Scotch shepherd dog could not, and sometimes two or three would stray off one or more miles into lots where the feed was no better, if as good, as in the one they had left. Such was their disposition to ramble that after six years' trial I sold them all out, and changed to other stock.

One year ago last October, I purchased one hundred Leicester ewes, and have kept them ever since, and a more peaceable, quiet flock of sheep I never kept nor was acquainted with. The pasture where they were summered last season is fenced just as the one was where I kept the Merinoes, only the fence was not as good. From my experience with them I am thoroughly convinced that if you will only give them good feed and enough of it, and fence of lawful height, you need not have any fears about their getting out of their pasture or rambling. They are the tamest and most easily domesticated of any sheep I ever kept. My neighbors all keep the Spanish Merinoes, and I have a chance to compare the habits of the two every day. Should you put one, two or five of them in with a flock of an hundred black, greasy, bad smelling, foot-rot Merinoes, they might be ashamed of their company and try to get away, and I should not censure them for it. G. C. B.

Rockingham, Vt., Jan. 18, 1869.

THE SEASON IN CANADA—LARGE CROPS OF WHEAT.

The year just past has been dryer in this section than any year since 1854. A year ago last fall we had very little rain, and not the usual amount of snow. During the winter we had no thaw or rain, consequently the streams were very low and water scarce. We had a wet, cold and backward May, and vegetation was at least ten days behind that of 1867 on the first of June. The summer, however, was so warm and dry, that crops matured much earlier than the year previous. The wheat, corn, and potato crops were very good. Hay, late sown oats and buckwheat, below the average. Winter set in quite early. We have had full ten weeks of sleighing to this date. The streams and deep wells are very low; several in our town have to draw water from the river, nearly a mile distant, both for stock and family use. Fodder is high for this country. Good hay cannot be bought for less than $15, gold, per ton; oats 50 to 60 cents per bushel. Those who feed grain are mostly feeding Western corn. The amount of snow on the ground at this time in the woods about 15 to 18 inches. We have had two short rains since this year commenced, which were a great benefit to those who had empty cisterns. The night of the 12th about eight inches of snow fell.

I subjoin a few figures showing the yield of wheat per acre of some of the best fields in this town:—Hon. T. L. Terrill, from 8 acres threshed 340 bushels, thresher's measure. He thinks it will not be less than 40 bushels per acre by weight. Mr. T. Ruiter raised 27 bushels from one bushel of seed. But these of course are above the average. T. P. JENKINS.

Stanstead, P. Q., Jan. 14, 1869.

BUTTER-MAKING WITHOUT WASHING.

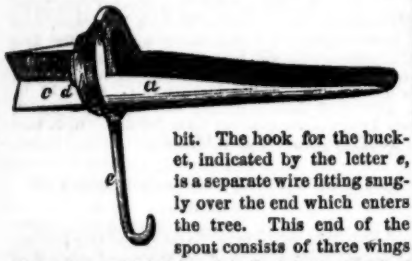
When I read Mrs. Trask's remarks on butter making, I could hardly keep my fingers from the pen, though I never wrote a line to the printers in my life. Her directions for neatness in milking and in preparing her pans and churn, and also her care to set the milk in a cool, clean place meet my approbation entirely. I think she keeps her cream a little too long in warm weather, and when she comes to wash the butter in cold water I am all "up in arms." Treating it in that way, I don't see how she can expect to see the "gilt-edge," for she has washed out all its nice, peculiar flavor. For this, her "tablespoonful of sugar to each pound" is,

in my opinion, a poor substitute. Washing not only injures the flavor of butter, but it injures its keeping qualities. To keep well, the buttermilk should be removed by beating or working the butter over, but never by washing; or, at least, such is the opinion of MRS. D.

South Hanson, Mass., Jan. 13, 1869.

POST'S EUREKA SAP SPOUT.

The manufacturer has sent us a specimen of the spout represented by the annexed cut. It is very neatly made of galvanized iron, three and a half inches in length, and fits the bore of a five-eighths



bit. The hook for the bucket, indicated by the letter *e*, is a separate wire fitting snugly over the end which enters the tree. This end of the spout consists of three wings or braces, *c c*, which driven into the tree press against the sides of the hole sufficiently to secure a firm support, and at the same time allow space for three openings *d*, for the flow of the sap into the spout *a*. It is simple, durable, cheap, and quickly applied or removed. Mr. C. C. Post, Waterbury, Vt., is the patentee and manufacturer.

RATS.—THE SEASON IN MAINE.

If the FARMER will tell us how to rid our premises of rats it will confer a favor on many. They destroy my apples, potatoes, &c., in cellar, grain, &c., in barn. Have tried arsenic on bread and butter, and with lard and bits of boiled beef, with only partial success.

We are having a most lovely winter; sleighing excellent, without drifts or blocking snow. During the eleven weeks that the ground has been covered with snow, our hay has been rapidly diminished, and I fear that the seventeen weeks that must interve between this and grazing time will nearly exhaust the large hay-crop of last year.

GEO. TABER.

Vassalboro', Me., 1st mo. 25, 1869.

REMARKS.—Such great things are expected of "book-farmers" that we are almost ashamed to say that in all our investigations into the mysteries of science applicable to agriculture, we have found no better remedy for rats than a good dose of *felis*. To secure the greatest efficacy of this Latin composition it should not be applied too strong nor too weak, too crude nor too much refined. But, to throw away our editorial stilts,—we mean that a cat or two, fed just enough to make them strong and ravenous, but not enough to make them fat and lazy, may be recommended for all rat-infested premises. But if you wish to try some more artistic means of prevention, spread some soft potash in their walks, which may make their toes sore, so they will caution all the rats in the neighborhood not to put foot on your premises; or paint the sides of their holes with tar or something that will dirty their clothes, which they take much pride in keeping clean; or catch one in a trap and smearing him with kerosene oil, give him his liberty; or mix a tea-cup of water in which a bunch of matches was soaked over night, with Indian meal to a stiff dough, adding a spoonful of sugar and a little lard, and place it about the premises where the rats and nothing else will get it; or try common box-traps, so made that the top and one or both ends are open when set, bait with fresh meat, fish or grease, in a grain barn; but if where they can get such food bait with corn or meal. As far as possible keep your hands from tainting the food you wish them to eat, or the trap you wish them to enter.

SALTING CATTLE.

Some farmers give their cattle salt regularly during the winter, others give none at all. One who seldom salts his cattle in the winter wishes to know the practical advantages of salting regularly at this season. H.

Brome, P. Q., Dec. 23, 1868.

REMARKS.—The world is full of crotchets. The idea of keeping cattle without salt and sheep without water sometimes gets into people's heads, but the great majority of practical farmers believe that cattle should have salt on their fodder or in some other way, and that sheep should have free access to water. According to the analysis of learned men, there is more or less salt in the composition of all cattle food and even in much of the water they drink. A ton of hay is said to contain about seven pounds of salt, a ton of turnips four pounds, a ton of red clover ten pounds, a ton of barley but very little, &c. Near the ocean, or sometimes at a considerable distance, it is said that on the windward side of trees salt is actually deposited, after a violent storm. A correspondent of the *Country Gentleman* says that after a long continued breeze from the sea he has himself tasted the herbage distinctly salt, at a distance of twenty miles. If nature thus seasons the food of cattle, may we not take their appetite as the best possible means of deciding whether the food which we furnish them contains as much salt as the wants of their system demand? This may not be a very learned way of deciding the question, it may not seem scientific, like a chemical analysis, but may it not be as reliable?

Professor Simonds, Veterinary Inspector of the Royal Agricultural Society of England, was quoted in our columns, a few years since, as having expressed the opinion that salt by its action on the liver, and the supply of soda it yielded to the bile, led to a greater amount of nutriment being derived from the food. The substance, he said, was also well known as a vermifuge, destroying many kinds of worms in the intestines of animals, and conferring a healthy tone of action which prevented their re-occurrence. Experiments have also been made in England, which showed that

animals fed on salt visibly improved in health and appearance, being lively and smooth-coated, while others without salt were shaggy and rough, their gait slow and heavy, indicating want of tone in the system.

Of course salt, like grain, should be fed with judgment, as salt-hungry animals often eat too much, if allowed all they will take. When cattle are allowed constant access to salt, as is the practice of many farmers, they eat a little at a time and without injuring themselves.

CALEDONIA CO., (VT.,) AGRICULTURAL SOCIETY.

At the annual meeting of this Society, held at St. Johnsbury, Tuesday, January 19, the following officers were elected for the year ensuing:—

President—Harley M. Hall, of Burke.

Vice Presidents—Chas. A. Sylvester, Barnet; Calvin Morrill, 1st Johnsbury.

Secretaries—I. W. Sanborn, Lyndon; T. M. Howard, Elisha May, St. Johnsbury; C. E. Parks, Waterford; A. P. Walter, Burke; C. J. B. Harris, Danville.

Treasurer—C. M. Stone, St. Johnsbury.

The following resolution, introduced by David Boynton, of St. Johnsbury, was favorably considered and referred to the Executive Committee:—

Resolved, That it is desirable for this Society to encourage the growth and preservation of forest trees in the county; and that the committee on premiums be instructed to include this subject in their awards for the ensuing year.

The meeting was fully attended, and the discussions on rotations of crops, artificial manures and their application, and the growth and perfection of forest trees, especially the sugar maple, were animated and interesting. I. W. SANBORN.

Lyndon, Vt., Jan. 22, 1869.

CULTIVATION OF PEAS.

Some weeks since I read in the NEW ENGLAND FARMER an article in regard to raising peas. I wish to ask if they will do to sow alone, also, the best kind, the quantity per acre, and how they are used for feed? Will it do to sow them on rich land, and if with oats, in what proportion?

AN OLD SUBSCRIBER.

Warren, Mass., Jan. 12, 1869.

REMARKS.—Will the writer of the article alluded to by our correspondent, or some one who raises peas, reply to the above inquiries. Peas are raised extensively in Canada; but we think less are raised in the States than formerly, partly, perhaps, in consequence of the bug which injures the crop, particularly in the southern part of New England. A heavy soil is considered best. They are often cultivated as a renovating crop, and there has been considerable discussion in the New York papers as to their value for this purpose, compared with clover.

ROOTING APPLE TREE LIMBS AND GRAFTS.

In answer to "One Interested" in the FARMER of Jan. 9, I will say that I have had some experience in rooting the apple tree limb. I find but little trouble in their striking root the first year. My method is to lay the limb of a small tree, and cut a slanting cut towards the top and pin the limb down with the top sticking out of the ground. I have some 30 or 40 trees well under way, treated as above — some large enough to bear. My object is to get a tree that is what we might call "full blood," and not wounded by grafting. I have another method of getting a "full blood," as I call it, and that is to take a small tree and run a sharp knife or chisel through the body at points four to six inches apart; then insert scions; lay the tree in the ground with just the top of the scion sticking out. Let them grow one or two years, and I generally find roots enough that have started out of the scion above the old stock to support the tree. If so cut the scion on young tree above the old stock and you have nothing but a "full blood" left.

W. V. TAINTER.

South Carthage, Me., Jan. 19, 1869.

LIME AS A TOP DRESSING.

I would like to ask through your valuable paper what the effects are of dry slacked lime, sowed on a meadow that is becoming mossy; the best time to sow it; the amount to the acre, and if it will pay, lime being worth ($1.50) one dollar and one-half a cask?

The meadow cannot be drained, but where it has been top-dressed the moss has disappeared and English grass has come in. It was so wet last fall I could not get on my dressing, and I would like something that will take its place.

A SUBSCRIBER.

Rumney, N. H., Dec. 12, 1868.

REMARKS.—Lime will make an excellent top-dressing for your meadow. Let it air-slack. You will sow it more comfortably if it is mingled with loam or moist sand. What its precise effect is on the meadow, is more than we can tell. It is quite probable, however, that other and better grasses than those which have been growing upon the meadow, will find congenial food after the lime is sowed, and will flourish there.

SLABBERS IN HORSES.

I am feeding this winter two three-year-old colts, side by side, in the same stable, from the same mow of hay, and in every way they are treated alike. One of them slabbers badly, the other not at all. Can either editors or readers of the FARMER tell the cause and cure of this difficulty, and oblige not only myself but others in this section whose horses are troubled with the same disease. JACK.

East Jay, Me., Dec. 7, 1868.

REMARKS.—We have rarely found a horse "slavering" when fed on dry hay of a good quality. Musty, or otherwise poor fodder, will sometimes affect the digestion, and cause slavering. It may be occasioned, in your case, by the feed, although only one horse is affected by it. Try a change of food, and give a tablespoonful of sulphur mixed with meal, two or three times in the course of ten days.

A GOOD PAIR OF STEER CALVES.

Though fifty-seven years of age and in poor health, I take much interest in stock, and for want of boys, handy my steers myself. I have a pair of calves this year that are superior to those I generally raise, and as I like to read about good calves raised by others, perhaps a notice of my steers will interest some of your readers. They were sired by my thoroughbred Durham bull out of Madonna 5th, by John Bull, out of a native or common cow. My steers are now ten months old and weigh 1400 pounds, and are perfectly handy in or out of the

yoke. They had the milk of one cow and 45 pounds of oil meal before the cow went to pasture, and nothing but hay and grass afterwards, till the second day of December, when the cow weaned them. Since then they have had hay and one quart of corn and cob meal each per day.

WILLIAM F. LOOMIS.

Langdon, N. H., Jan. 17, 1869.

THE EARLY ROSE POTATO COOKED.

In reply to a correspondent in your last issue, in regard to the cooking qualities of the "Early Rose" potato, I can answer from personal experience with my neighbors who have tested their merits. I procured ten pounds of seed and planted the same every way as common sorts, except cutting into single eyes. I found them much ahead of any early sort we raised. I had good sized tubers in two months from planting. The yield was beyond my sanguine expectations, the ten pounds giving a yield of 1575 pounds, equal to 26¼ bushels. They cook through very quick and are every way a first-class table potato.

I have noticed an account of a test of several very prominent varieties in New York, at the house of B. K. Bliss. Of the several varieties cooked at that trial, Early Rose was voted No. 1.

Hartford, Vt., Jan. 18, 1869. H. C. P.

SUPERPHOSPHATE.

Last spring I used one barrel of Bradley's Superphosphate of Lime in planting corn. I then purposed making an actual experiment so as to know if the fertilizer was a profitable investment, but in the hurry of harvest I failed to measure the corn, so I do not possess the desired information. Can some reader of the FARMER give it me from *actual experiment?* I pronounce the fertilizer *good*, but am impressed that it costs too much to be profitable. I paid three and one-half cents per pound for mine. Why should it come so high?

Leicester, Vt., Jan., 1869. W. S. A.

A REMEDY FOR KICKING COWS.

Take a cord, make a loop in one end, and make a figure 8 around the hind legs above the gambrel joint and draw tight, and you have a sure cure.

Brattleboro', Vt., Dec. 28, 1868. S. M.

AGRICULTURAL ITEMS.

—A cow gives richer milk when fat than when poor.

—D. H. Thing, Esq., has been chosen a member of the Maine State Board of Agriculture for the next three years, by the agricultural societies of Kennebec county.

—Mr. J. P. Douglas, of Middlebury, Vt., recently forwarded 500 bushels of barley to market. It was the first lot, says the *Register*, ever sent from that station.

—Col. Marshall P. Wilder, President of the American Pomological Society has appointed Sept. 15, 1869, for the next meeting of the Association in Philadelphia.

—The famous stallion General Knox has netted his owner, Col. T. S. Lang, $60,000, and increased the value of the horse stock of Maine many hundred thousands.

—The following are the officers of the Sterling, Mass., Farmers' Club:—President, James A. Pratt; Secretary, Ezra Sawyer; Treasurer, Wm. D. Peck, with 127 members, at $1.00 per year. Meetings well attended. A town fair is held each year. Cash premiums last year $241.

—The old complaint of abortion in cows is alluded to by the New York papers. Out of one dairy of twenty-five cows in Buel, Montgomery Co., seven have recently aborted.

—The *Maine Farmer* says that hops have been selling at ten cents per pound in Oxford County; last year from forty-five to fifty-five cents. Present prices do not pay for picking.

—Prof. Gamgee stated at the late meeting of the American Dairyman's Association that he believed that his process of preserving meat might be successfully applied for preserving the flavor of cheese.

—A Mississippi correspondent of the *Dixie Farmer* says that on five or six contiguous plantations where he knew there were nearly one thousand negroes in 1860, one hundred cannot now be mustered.

—Caleb N. Bement, widely known as a writer on agricultural topics, and especially of late years on subjects connected with poultry raising, died at his residence in Poughkeepsie, Dec. 22d, in the 78th year of his age.

—At present the town of Andover, Vt., has no lawyer or doctor, and but one clergyman, no store, grocery, grist mill, and but one blacksmith shop, yet over one hundred copies of agricultural papers are taken by its 129 voters.

—In Paris, toads are sold at the rate of two francs fifty centimes per dozen. The dealers keep them in large tubs. Toads are also kept in vineyards, where they devour during the night millions of insects that escape the pursuit of nocturnal birds.

—The following are officers of the Waldo County, Me., Agricultural Society; J. D. Tucker, President; D. L. Pitcher, Vinal Hill, Vice Presidents; A. D. Chase, Secretary and Treasurer; Wm. N. Hall, J. P. Savery, N. W. Holmes, Joseph Ellis, Trustees.

—A correspondent of the *Country Gentleman* says he finds a sure cure of chilblains in the use of a decoction, made by putting five pounds of oak bark in a kettle with three quarts water and boiling down to one quart.

—There is more timber in Southern Minnesota than there was ten years ago. The prairie fires are stopped by the roads and fields. Timber is too valuable to be wasted and people guard it with a jealous eye.

—At the annual meeting of Springfield, Mass., Farmers' Club, the following officers were elected: G. L. Cutler, President; Jas. Booth, Vice President; Henry M. Arms, Secretary; D. O. Gill, Treasurer.

—The editor of the *California Farmer* has recently visited a farm, or "ranch," of 6000 to 8000 acres belonging to Wm. Bihler, who has recently expended some $20,000 to $30,000 in draining Tule

Lake, which formerly covered about 300 acres. On the land thus drained monster potatoes have been raised. Nine tubers presented to the editor weighed twenty-five pounds and seven ounces—the largest five and a half pounds, and measuring twenty-five inches.

—A stone at Metheun is situated in two States, Massachusetts and New Hampshire; three counties, Rockingham and Hillsborough, N. H., and Essex, Mass., and three towns, Salem and Pelham, N. H., and Methuen, Mass.

—The Vermont State *Journal* says that Mr. Zalmon Pierce, of Calais, wintered two geese and a gander, from which, the past season he raised 27 goslings. When fattened for market they weighed 278½ lbs., bringing $55.65; 17 pounds of feathers sold for $21.25; total $76.90.

—It was recently stated in a discussion by the Waltham, Mass., Agricultural Club, that a farmer in Holliston had raised cabbages on the same land for fifteen successive years, and always successfully. He manures his land with common salt, and watered the plants with lime.

—Four Norman Stallions were lately sold by auction at Irwin Station, Ohio. They had recently been imported, were six, four, four and three years old, and brought $2,335, $2,475, $2,925 and $1,500 respectively. All were purchased by parties in Ohio.

—In reply to an inquiry of Edward Jennison, of Winchester, N. H., at the New York Farmers' Club, Wilson Isham, Watertown, N. Y., E. Coryell, Hooper's Valley, N. Y., Lewis Andrews, West Winstead, Conn., and C. C. Wyckoff of Skaneateles, all state that they have cows, born twins with a bull calf, that bear young, and give milk just like any cows.

—Timothy Mather, of Hartford, has sold to Mr. Capen, of Bloomfield, Conn., four Short-horned cattle,—the bull "Rosalind's Oxford," 6138, the cow "Holiday, 2d" and calf, and a heifer from "Holiday 4th." He has also bought the bull "Ulysses," 6379, by "Brigand," 4598, out of "Windsor Lass."

—California wheat is so dry, by origin and nature, that in coming East through and into a humid atmosphere, it gains greatly in weight by absorption. This is an element of profit to shippers. So with the flour, it will absorb twenty, thirty, even forty pound more water per barrel than our Eastern flour, and so the bakers gain greatly in using it.

—At a Farmers' Club in Long Meadow, several men gave their experience in cow feeding. Mr. Allen said he had found that wheat shorts make the sweetest milk, rye bran the *whitest*, Indian meal the richest, and oil cake the most. Clover, they thought, should be cut early, not mowed away dry, but stored, a little damp, between layers of rye straw. Four quarts of oil cake a day is too much for a cow; she will be likely to calve prematurely.

—In his lecture on the breeding of the horse, delivered at Manchester, N. H., last week, Col. Lang, of North Vassalboro', Me., said the finest gentlemen's horses he had ever seen were in France. There breeding is carried as near perfection as possible in this class as well as in the sporting horses, in which the French people seem to be much interested, and bid fair to beat the world.

—The medical journals report the case of Mr. Eli Townsend, Montgomery, Ala., who treated a horse having the glanders. Mr. Townsend had, at the time, a scratch upon one of his hands, through which his system became inoculated with the poison, and after great suffering, he died in fifteen days from the beginning of the attack. A similar case has recently occurred in the City of New York, where the disease is very prevalent among horses.

—An American Jersey Cattle Club has been formed by the election of Samuel J. Harpless, St. Road Station, Chester County, Penn., as President; Thomas J. Hand, Sing Sing, N. Y., Treasurer; Geo. E. Waring, Newport, R. I., Secretary. Thomas Motley, Jamaica Plain, Mass., S. W. Robbins, Weathersfield, Conn., are announced as members.

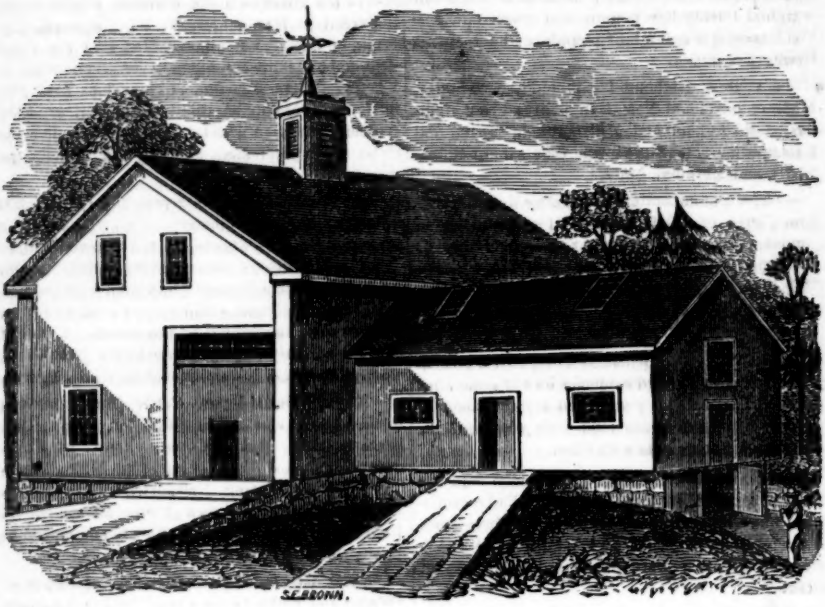
—Mr. J. Harris, of Rochester, N. Y., author of "Walks and Talks on the Farm," in the *American Agriculturist*, and one of the Professors in the New York Agricultural College, said in a late article, "It is more important for a farmer to know how to get out stones, and to have energy and determination enough to do it, than it is to know all about the absorptive power of soils."

—The *Maine Farmer* says that Mr. Drewry N. White, one of the farmers of Dixfield, made the past season over three tons of cheese from twenty-two cows. This will amount, at eighteen cents per pound, the price at which he sets it, to $1,075.00. He raised seventy-five bushels of beans—enough to constitute him deacon for seven years—dried 1200 pounds of apple, and raised thirty-five bushels of wheat on one and one-fourth acres of land.

WINDSOR COUNTY, VT.—At the late meeting of this Society, the committee on farms awarded the first premium to John Miller, of East Barnard, and the second to Elisha S. Gallup, of Woodstock.

The first premium on Spring wheat, yield 22 bushels to the acre, $10 was awarded to John Brockway, of Pomfret.

To T. L. Slayton, of Hartland, was awarded the first premium, $10, on corn, yield 90 5-7 bushels. The second premium, $5, was awarded to Solomon Woodward, Woodstock, yield 79½ bushels.



A MODEL BARN.

We have the pleasure of presenting our readers a Perspective View and Ground Plan of a Barn 36 by 60 feet, for a Hay Barn, Carriage Room, Granary, &c., with a Cow Stable, 33 feet square, with a cellar underneath for manure; the entrance to the cellar is at the south end.

We have long been of the opinion that there is scarcely any one thing in which the farmer is directly interested, that so much needs improvement as the *Barn*. It is an appendage to the farm of the first importance, requiring so much time to be spent in it, both winter and summer, and having such an intimate relation to the profits upon the stock sheltered under its roof, that it is somewhat strange so few good barns are erected, and stranger still, that so few really *good models* are to be found. Several years ago we built a barn of the best materials, and as we then supposed upon the most approved plan, for the stowage of fodder and the comfort and convenience of the cattle and those who were to attend them. It has its ample cellar, ventilator, doors moving on rollers, &c. In its construction we certainly gained two points, viz.: a fine place to manufacture manure, and a pretty equal temperature for the stock. The space for stowing hay, however, is cut into too many parts, affording only scant room and requiring a great deal of labor in the busy season of haying to stow it away. The breath from the cattle, together with the vapor arising from the manure, which defies all attempts to keep it below the floor if the cellar is warm, covers not only the floor over the cellar, but the beams and the whole under side of the roof, with pearly, trickling drops for weeks together during the winter.

If the doors are thrown open in order to evaporate this moisture, we lose the benefits we have been seeking in making a tight barn, by reducing the temperature so much that cattle require *more* food, while the effect is to *reduce* the flow of the milk in the cows.

We could refer the reader to barns built in

the most thorough manner, but lacking the proper ventilation, where the timbers over the cellar have become so weakened and dead in a few years as to snap square off like pipe stems, and the shingles of the roof flying by dozens at every fresh gust of wind.

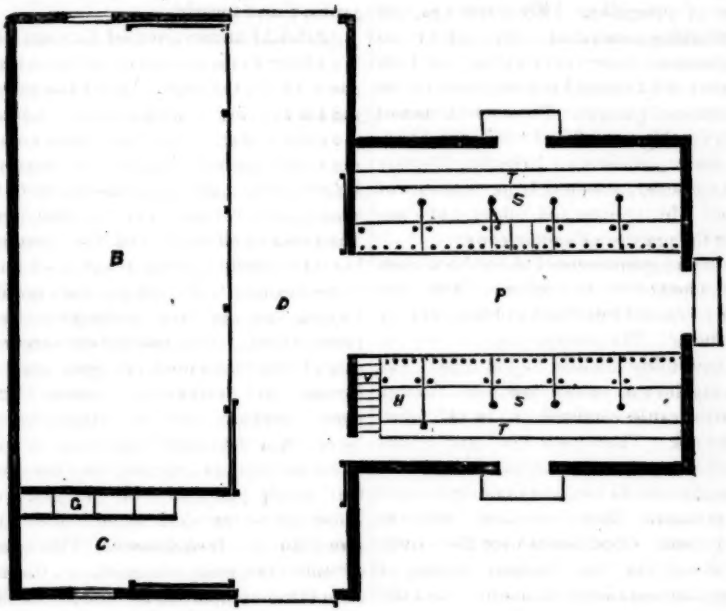
The plan presented above seems to come nearer to the wants of the farmer, where he must build on level ground, than any plan we have ever seen. It has this merit, also, that a cheap barn may as well be constructed in this manner as an expensive one.

The drive way for the hay barn is on the south side, throughout the length of the barn, having a bay for hay 24 feet deep; height of posts 19 feet. The scaffolding over the barn floor in the two first sections to be 14 feet in the clear—the third and fourth sections to be eleven and a half feet in the clear, the remainder 14 feet.

C, Carriage room; *B*, bay for hay; *D*, drive way; *G*, grain and meal bins; *P*, passage way between cow stables; *S*, stalls for cows; *H*, horse stable; *T*, trench behind cows; *V*, stairway. This plan is to have three windows of twelve lights, ten by fourteen glass, to each, on the front or west end; also two of the same size in the opposite gable end. Two windows in each side of the stable, of six lights each, ten by fourteen, with a blind slide with each sash. All outside doors put on rollers; two skylights in the roof of stable to serve as ventilators.

One grand object to be obtained is to separate the cattle stable from the hay barn, by sliding doors above and below, to prevent the hay being damaged by the vapor and ammonia which are constantly arising from the cellar. A small barrow of some simple construction, on a truck, to convey the hay to the feeding passage will save much time in feeding.

Many large and valuable barns have been much damaged by being placed over a manure cellar without proper ventilation.



Ground Plan.

AGRICULTURE IN MASSACHUSETTS.

IT IS well for people in the various pursuits of life, and in all localities, to contrast occasionally the present with the past, and to inquire whether they are making progress, and if so, in what respects, and to what causes such progress is owing. We propose at this time to consider the question, Has there been any improvement in agriculture in Massachusetts within the last twenty years?

Twenty years ago, there were good farmers in Massachusetts. Some attention was being paid to draining. Some good stock had been imported, and there were many good cattle, especially Short-horns, in the State. The importations of the Society for the Promotion of Agriculture had scattered the progeny of this stock into every part of the Commonwealth.

A good deal of attention was paid to the subject of ploughing. Fifty years ago, the first ploughing match had been held by the Massachusetts Society, at Brighton; and from that time much thought has been given to the construction of ploughs. There were instances of high farming to be found within the State. The market gardeners of Brighton, Roxbury and Dorchester, composted large quantities of manure. Mr. Quincy and others had commenced the practice of soiling cows.

But these improvements had not been generally adopted by the farmers. They were moving in the old ruts that had been worn by their fathers. The average crop of corn did not exceed thirty bushels to the acre. The grass crop did not exceed one ton. A large part of the cattle consisted of the old unimproved stock. There were few barn cellars and but little compost was made. Many of the old ploughs were in use, and draining was but little practiced. Most of the farm work was done by oxen. Good horses were the exception, and not the rule. Summer seeding of of grass land was almost unknown. But little attention was paid to gardening among farmers, and their families were very scantily supplied with the better kinds of fruits and vegetables.

In almost all these respects there has been a marked improvement throughout the State. We have now a noble stock of cattle. Everywhere are found Durhams, Ayrshires and Alderneys, or their grades. Poor and inferior cows are considered a disgrace to every farm. A better class of horses is found on the farms and on the roads. Horses have very extensively taken the place of oxen on the farms, and universally on the roads. Better farm implements, as ploughs, harrows, shovels, spades, hoes, forks and rakes, are everywhere seen. Better wagons, carts, and vehicles for riding are universal, and a great amount of labor that was formerly done by the hand is now done by the horse. The mowing machine and horse rake are in general use, and the horse pitchfork and tedder are being introduced upon the large farms. Barn cellars are fast increasing in number. The practice of composting barn manure with muck or loam is generally adopted. The summer seeding to grass is becoming quite common. Draining is practiced to a considerable extent. Fruit raising, especially of pears and small fruits, has greatly increased, and much more attention is paid to the kitchen garden than formerly.

Artificial manures are used to some extent in addition to the greater quantity of manure now made on the farm. More roots are raised and fed to cows. Partial soiling is practiced to a great extent. More hay cutters are used, and more attention is paid to the winter feeding of stock, and as a consequence of this, more manure is made, and of better quality. The result of all this is that the quantity of hay has greatly increased and is of a much better quality. We think that the quantity of English hay has been doubled in the last twenty years. It is generally cut earlier and cured better than even a few years ago. The farmers are everywhere learning that the more completely the hay retains the quality of grass, the better food it is for cattle. The corn crop has increased by from five to ten bushels per acre. In no State in the Union does corn yield more bushels to the acre than in Massachusetts. The quantity of milk has greatly increased, and that much more than in proportion to the increase in the number of cows; showing that cows are better and better kept.

The farm-houses and barns are very much improved all over the State, and are much better furnished than they were even twenty years ago. Farmers and their families are

better fed and clothed, and educational privileges are greatly increased, and with them a taste for reading. Agricultural, and other daily or weekly papers, are generally read by the farming population. Music and the means of social improvement are much more common than in the past generation. And yet there is probably no better farming now than could have been found in exceptional instances twenty years ago. But the improvement is now more general. The example of the progressive men has been imitated by the mass. That which was looked upon as a doubtful experiment a few years ago is now adopted as the common practice. What was the exception is now the rule.

We will refer to a few of the more obvious causes to which these changes for the better are due. The encouragement afforded to agriculture by the State, and the efforts of agricultural associations, have done much to bring them about. Much is due to the great improvements which have been made in the mechanic arts, by which farm implements have been multiplied and materially improved. Work is now done by them more easily, more rapidly, and more perfectly. This has contributed greatly to facilitate labor and relieve the drudgery of the farm. We are disposed to attribute the improved condition of farming very largely to this cause.

But the increased and increasing intelligence of all classes of the community, and the greater attention that is paid to the natural sciences and the application of science to art, are the great causes that are bringing about these results. Books, periodicals, discussions in farmers' clubs, and above all, the agricultural papers have awakened the attention of the agricultural community, and given to the minds of farmers an activity formerly unknown. Other causes have had much influence, such as greater facilities of transportation, local markets growing out of the manufacturing establishments which have sprung up in every part of the State, and better prices for all descriptions of produce. These render agriculture more immediately remunerative, and have led to important changes in the products, as well as in the methods of culture.

It is said that there are 5000 species of butterflies known to naturalists, 900 of which are inhabitants of North America.

MAINE BOARD OF AGRICULTURE.

The annual session of this Board commenced at Augusta, January 20th. The meetings of this Board have for several years past been conducted with a plan and system far in advance of those of any other agricultural Board or association of farmers in the country. They are continued through two weeks. At the morning session of the first day the following elections were made:—

President—Hon. Samuel Wasson of Ellsworth.
Vice President—Hon. Seth Scammon of Scarboro'.
Secretary—S. L. Goodale of Saco.
Messenger—A. R. Boardman of South Norridgewock.

The last *Maine Farmer* contains a report of the proceedings of the first five days' session, during which essays were had on a great variety of subjects, generally followed by discussions.

In connection with the regular meetings of the Board, there were this year a Potato Exhibition, the annual meeting of the State Agricultural Society, and a general Farmers' Convention, on the plan of the New Hampshire meeting, all of which occurred during the two weeks' session of the State Board.

At the annual meeting of the State Agricultural Society the following officers were elected for the ensuing year:—

President—Hon. Seth Scammon, Scarboro'.
Secretary—S. L. Boardman, Augusta.
Treasurer—Wm. E. Morrie, Portland.
Trustees—Warren Percival, Vassalboro', Samuel Wasson, Ellsworth.

For the New England Farmer.

FAIRFIELD, ME.

Farms—Buildings—Stock—Top-dressing with Sheep—Seed Potatoes—Use of Superphosphate, &c.

This township is situated on the west side of the Kennebec river, and is one of the southern towns in Somerset County. Its area is about 48 square miles. The surface is generally quite level, though the western part is somewhat rocky; but the fat sheep which are raised there suggest the old proverb, "The nearer the bone the sweeter the meat."

Generally the farms are good and the buildings substantial,—many of them tasty and furnished with modern conveniences, not to say luxuries. The barns are large, well arranged, and filled with hay, grain, &c., and with all kinds of stock, of the best kinds. Farmers here very justly pride themselves on raising nicely-matched and well-trained working oxen. Their other stock is also very fine. One man in North Fairfield, Mr. T. Janes, told me that he sold a two-year-old steer that dressed 1300 lbs., and a heifer of the same age for $90. He has now an April calf that girths 4 feet 10 inches. His cattle are all of

the old-fashioned stock. It is no uncommon thing to find April and May calves that girth 4½ feet, and over.

Mr. Lewis Beal informed me that in the fall of 1867 he tried top-dressing with sheep, as has been recommended by a correspondent of the FARMER. His hurdle or pen was 30 feet square, in which he yarded 160 sheep four nights in a place, when the hurdle was removed to another spot. Last summer he cut the first crop of grass on the land thus top-dressed quite early, as it was lodging badly on account of the great growth. He took four racks, eighteen feet long and well filled, from an acre. On the second mowing he took more hay from this land than ever grew there any preceding year. Besides which, it produced a large growth of fall feed. Some of his neighbors contend that he merely robbed Peter to pay Paul, inasmuch as he took or kept from his pastures whatever was added to the meadow. To this he replies that his sheep invariably seek the same shady side of some ledge, fence, stump or tree, where a large share of their droppings are wasted.

Potatoes are largely cultivated in this town, and are one of its principal market crops. As has been recommended in the FARMER, many here plant the butt end of the potato after cutting off the seed end. The tops of the potatoes in a field thus planted appear light, and to an unpracticed eye they look discouraging all through the season. But, on digging, the result is entirely satisfactory as to yield, size of tuber and exemption from disease. Many have been successful in the use of superphosphate in the cultivation of potatoes. Barn manure excites too large a growth of tops, and induces disease in the potatoes. The plan here is to plant potatoes with superphosphate alone one year, and the next year put in the manure liberally and seed down to grass. It is no uncommon thing to find farmers here with from 1000 to 1500 bushels of potatoes on hand, waiting for a favorable market.

There are six post-offices in the town, but the largest village is Kendall's Mills, where there are some dozen stores, several manufacturing establishments, mills, &c. The railroad accommodations are very good, and a new one to pass through the west part of the town is expected to be in running order by the fourth of July next. ZEN.

Fairfield, Me., Jan. 4, 1869.

FEEDING OFF AFTERMATH.

It is a very common practice with farmers, to reserve their meadow feed until very late in the fall, even so near to winter that the frost has taken nearly all the succulent and nutritious properties out of it; but, by this mode of management, very little benefit is received, and in many cases great injury is done. Some advocate, however, that aftermath should not be fed off at all, but left as a shield and mulch for the roots; but from our own experience, we do not believe meadows are injured by being pastured in the fall, if it is done at the right time, and by certain animals.

Meadows are injured by horses and sheep late in the season; for after the blades of the grass are killed, these animals will nip close to get sweet feed. They should never be allowed upon mowing land after the grass has stopped growing, not even in winter when the earth is frozen, for they will then gnaw to the very roots.

Horned cattle are really the only fit animals for the meadow, and they should be turned in while the feed is good, and removed as soon as the earth becomes moist enough for their feet to break the sod. In this way, a profit may be derived on one hand, without any loss attending it on the other, and sufficient protection left for the roots. Timothy, and many other grasses which are common, take strong hold upon the soil, and are difficult to eradicate, and for this reason farmers abuse their fields.

Close feeding kills out here and there a little, and mosses, with other foreign matters, work in so gradually that it is for a few years hardly noticeable, but eventually the meadow has to be ploughed up and re-stocked, because a paying yield of grass is not received.

Now all this results from injudicious management; for we know of many meadows which yield heavy crops every year, of the best quality of grass, that have never been ploughed or re-seeded since the land was cleared nearly half a century ago. They have always been pastured in early fall, never fed close, and have occasionally received a top-dressing of barnyard manure.—*Ohio Farmer.*

Youths' Department.

From the Independent.

A LITTLE MAIDEN'S SONG TO HER DOLLY.

Lie down, little Dolly, quite still on my lap,
While I hasten to put on your night gown and cap;
You have been wide awake this whole blessed day—
Long enough, I am sure, for a Dolly to play.

The sun has gone down full two hours ago;
'Tis long past your bed-time, you very well know;
The bright stars are peeping from out the clear skies;
Then go to sleep, Dolly—come, shut your blue eyes.

There! a soft little pillow lies under your head;
Had ever a Dolly a cozier bed?
I will cover you up, so warm and so nice—
Then stop your cries, Dolly, hush! hush! in a trice.

Mamma says the flowers were asleep long ago—
Sweet roses, pure lilies, their heads drooping low;
She says 'tis a lesson for me and for you,
That children and dollies should be asleep too.

Hark! Susan is calling, now out goes the light;
I will tuck you up snugly, then kiss you good night.
'Tis time you were sleeping; for do you not know
That the dear little birds went to bed long ago?

[Copied by permission from *Appleton's Juvenile Annual.*]

MORE HASTE, LESS SPEED.

"Shall I reach Tournay to-night before the gates are shut?" asked a wagoner, who was driving an empty cart drawn by a pair of horses at great speed, of another whom he passed driving a similar vehicle slowly along a high-road in France. "Shall I be able to get there to-night before they shut the gates?" he repeated, impatiently.

"Yes, you'll be in plenty of time if you drive slowly," replied the second wagoner; and he proceeded on his way, while the first drove rapidly by, exclaiming:

"A pretty way to get to one's destination—to drive slowly and waste time on the road! No, no, that won't suit me! I'll go as fast as my horses can lay legs to the ground." And he shook the reins and urged his horses to still greater speed.

Meanwhile the driver who had given him the good advice proceeded slowly on his way. Presently he noticed that one of his horses had lost a nail from one of its shoes.

"This won't do," said the driver; "best remedy a small evil at once."

So he drove on as carefully as possible, lest the shoe that was clap-clapping in a loose manner on the road should fall off altogether. And at the next smithy he halted, and unharnessed the good old horse from the wagon. The smith brought out his tools, and in a few minutes honest Ball's shoe was fixed on as tight as ever. [*See engraving*]

"Only a quarter of an hour lost," he said, "but we can move all the more briskly for the delay; so here we start again."

Thus he went on steadily and perseveringly, and arrived at Tournay a full quarter-hour before the gates were shut.

And how fared it with the other wagoner who could not afford to go steadily, lest he should arrive too late? Listen, and you shall hear.

He drove on, increasing his speed as the time wore on. Presently he noticed that one of his horses began to limp.

"Foolish beast!" he said, "who is to get down now, I wonder, to look after your ailments? If you've a stone in your foot, you may shake it out again as best you can. I cannot afford to wait for you to-day."

And he gave the poor horse a loud crack with the whip on the back, so that it gave a plunge, and stumbled on faster than before.

The horse began to limp more than ever. The stone was still there, and the hoof was becoming bruised and sore; but the wagoner would not stop a moment. But now a rough piece of road is to be traversed, surely our

driver will check his speed here, and proceed slowly? But no; he only thinks of getting to his destination as quickly as possible. He urges on his horses; the poor beast who has fallen lame gives a desperate plunge, and falling down, breaks the pole of the wagon asunder.

No thought now of reaching Tournay that night. The best thing to be done is to seek assistance at the next farm-house, and go in quest of a carpenter or wheelwright to mend the broken pole. And the wheelwright, when he comes, says that the necessary repairs will occupy at least twenty-four hours, and that he cannot drive his wagon into Tournay until the second day after the accident.

Then the driver wished he had taken the advice of his comrade, and made less haste in the first instance to get on; and he understood how much truth there is in the saying, "*The more haste, the less speed.*"

A SMALL BOY'S COMPOSITION.

Corns are of all kinds. Vegetable and animal. Vegetable corn grows in rows and animal corn grows on toes. There are several kinds of corn; there is unicorn, capricorn, corn-dodgers, field corn, and toe corn, which is the corn you feel the most. It is said, I believe, that gophers like corn; but persons having corns do not like to "go far," if they can help it. Corns have kernels, and some colonels have corns. Vegetable corn grows on ears, but animal corn grows on the feet at the other end of the body. Another kind of corn is acorn; these grow on oaks, but there is a hoax about the corn. The acorn is a corn with an indefinite article, but the corn is very definite indeed. Try it and see. Many a man when he has a corn wishes it were an acorn.

Folks that have corns sometimes send for a doctor, and if the doctor himself is corned, he would probably do as well as if he isn't. The doctors say corns are produced by tight boots or shoes, which is probably the reason why when a man is tight they say he is corned. If a farmer manages well he can get a good deal of corn on one acre, but I know a farmer that has a corn that makes the biggest acher on his farm. The bigger crop of vegetable corn a man raises the better he likes it, but the bigger crop of animal corn he raises the better he does not like it. Another kind of corn is corn dodger. The way it is made is very simple, and is as follows (that is if you want to know:) You go along a street and meet a man you know has a corn, and is a rough character, then you step on the toe that you know has the corn on it, and see if you don't have occasion to dodge. In that way you will find out what a corn dodger is.

CHARACTER.—Have you ever watched an icicle as it formed? You noticed how it froze one drop at a time, the icicle remained clear and sparkling brightly in the sun; but if the water were but slightly muddy the icicle looked foul, and its beauty was spoiled. Just so our characters are forming. One little thought or feeling at a time adds its influence. If every thought be pure and right, the soul will be lovely and will sparkle with happiness; but if impure and wrong, there will be a final deformity and wretchedness.

Ladies' Department.

THE PERPLEXED HOUSE-KEEPER'S SOLILOQUY.

BY MRS. F. D. GAGE.

I wish I had a dozen pairs,
Of hands, this very minute;
I'd soon put all these things to rights—
How shall I e'er begin it?

Here's a big washing to be done,
One pair of hands to do it,
Sheets, shirts and stockings, coats and pants,
How will I e'er get through it?

Dinner to get for six or more,
No loaf left o'er from Sunday;
And baby cross as he can live,
He's always so on Monday.

And there's the cream, 'tis getting sour,
And must forthwith be churning,
And here's Bob wants a button on—
Which way shall I be turning?

'Tis time the meat was in the pot,
The bread was worked for baking,
The clothes were taken from the boil—
Oh dear! the baby's waking!

Hush, baby dear! there, hush-sh-sh!
I wish he'd sleep a little,
'Till I could run and get some wood,
To hurry up the kettle.

Oh dear! oh dear! if P—— but comes
And finds things in this pother,
He'll just begin and tell me all
About his tidy mother!

How nice her kitchen used to be,
Her dinner always ready,
Exactly when the noon bell rang—
Hush, hush, dear little Freddy.

And then will come some hasty word,
Right out before I'm thinking,—
They say that hasty words from wives,
Set sober men to drinking.

Now isn't that a great idea,
That men should take to sinning,
Because a weary, half-sick wife,
Can't always smile so winning?

When I was young I used to earn
My living without trouble,
Had clothes and pocket money, too,
And hours of leisure double.

I never dreamed of such a fate,
When I, a lass! was courted—
Wife, mother, nurse, seamstress, cook, housekeeper, chambermaid, laundress, dairy woman, and scrub generally, doing the work of six
For the sake of being supported!

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

MR. EDITOR:—Being interested in this department of your paper and often getting valuable hints therefrom, I would like to submit the following receipts for the trial of all housekeepers who read the FARMER:—

Brown Bread.

Indian meal, two cups; rye meal, one cup; flour, one cup; molasses, one-half cup; two cups sour milk or buttermilk, in which dissolve one teaspoonful of saleratus; salt. Boil or steam five hours. Set in the oven a little while before putting on the table.

Suet Pudding.

Take six ounces each of chopped apples, suet, raisins and bread. Boil three hours. Serve with sauce—butter and sugar beaten to a froth.

Sponge Cake.

One cup of sugar; three eggs; two tablespoonsful cream; one and one-half cups flour; one teaspoonful cream of tartar; one-half teaspoonful saleratus.

Lemon Pie or Tarts.

One lemon; two eggs; one cup sugar. Grate the peel, and sqeeze in the juice. Beat all well together.

Another, more economical: Two lemons; two eggs; three-fourths cup water; three-fourths cup milk; one cup molasses; one cup sugar; one cup chopped raisins. Prepare the lemon the same as above. M. P. B.

Somerset, Mass., Jan. 5, 1869.

CHUCK RIBS OF BEEF, WITH VEGETABLES.—There is hardly a greater error, for modest households, than preferring the best pieces of inferior animals to the cheap bits of bits of excellent beeves, calves or sheep. Any one who can and will follow my prescription to-day will be abundantly convinced of this.

Try to buy the chuck-ribs of a fine beef and prepare as follows:—

Chuck-ribs and vegetables,—divide the piece of beef if too large. Place the whole in a pot or earthen jar, surrounded or covered with coarse salt; cover the pot, and leave for five or six days.

To cook, relieve it of the salt; wash slightly in soft water and set it to cook in a large kettle or earthenware pot, without too much water; when the foam has risen, season with a little onion stuck over with cloves and with a bay leaf; let it boil an hour, then stir in plenty of (blanched) cabbage, carrots, turnips, potatoes, etc., and allow them to cook gently until done.

At the time of serving, make a butter-sauce without browning it too much, mixing it with the remains of water in which the beef and vegetables were cooked; season with salt and pepper, if necessary. Let it simmer down, and serve in a large dish, the vegetables beneath, the meat upon them, a part of the sauce poured over, and the rest in a boat.

TO FRESHEN SALT FISH.—Many persons who are in the habit of freshening mackerel, or other salt fish, never dream that there is a right and a wrong way to do it. Any person who has seen the process of evaporation going on at the salt works, knows that the salt falls to the bottom. Just so it is in the pan where your mackerel or white fish lies soaking; and, as it lies with the skin down, the salt will fall to the skin, and there remain; when, if placed with the flesh side down, the salt falls to the bottom of the pan, and the fish comes out freshened as it should be. In the other case it is nearly as salt as when put in.

GLOSS ON SILK.

The method of giving an artificial gloss to the woven pieces was invented in 1663. The discovery of the method was due to pure hazard. Octavio Mey, a merchant of Lyons, being one day in deep meditation, mechanically put a small bunch of silk threads into his mouth and began to chew them. On taking them out again into his hand, he was struck by the peculiar lustre they had acquired, and was not a little astonished to find that this lustre continued to adhere to the threads even after they had dried. He at once bethought him that there was a secret worth unravelling in this fact, and being a man of wits, he set himself to study the question. The result of his experiments was the *procede de lustrage*, or "glossing method." The manner of imparting the artificial gloss has, like all other details of the weaving art, undergone certain changes in the course of years. At present it is done in this wise: Two rollers, revolving on their axes, are set up a few feet from the ground, and at about 10 yards, in a straight line, from each other. Round the first of these rollers is wound the piece of silk of 20, 40, or 100 metre's length, as the case may be. Ten yards of the silk are then unwound and fixed by means of a brass rod in a groove on the second roller, care being taken to stretch the silk between the two cylinders as tightly as possible. A workman with a thin blade of metal in his hand daintly covers the uppermost side of the silk (that which will form the inside of the piece) with a coating of gum. On the floor under the outstretched silk is a small tramway, upon which runs a sort of tender filled with glowing coals. As fast as one man covers the silk with gum, another works the tender up and down so as to dry the mu-

cilage before it has had time to penetrate the texture. This is a very delicate operation; for if, on the one hand the gum is allowed to run through the silk, or if on the other, the coals are kept too long under one place, the piece is spoiled. In the first instance it would be stained beyond power of cleaning, and in the second it would be burned. None but trusty workmen are confided with this task, and even with the most proved hands there is sometimes damage. When ten yards of the piece have been gummed and dried they are rolled round the second cylinder, and ten more are unwound. This is repeated till the end. But the silk, with its coating of dry gum, is then stiff to the touch and crackles like cream-laid note-paper when folded. To make it soft and pliant again, it is rolled anew some six or seven times under two different cylinders, one of which has been warmed by the introduction of hot coals inside, and this is sufficient to give it that bright, new look which we all so much admire in fresh silk.—*Cornhill Magazine.*

OLD MAIDS.

There is a stigma of reproach cast upon the term "old maid"—too often justly so, I admit. But where does the fault lie? I know two women who may be cast in this category—unmarried, forty years old, or thereabouts. Both are of good family, the daughters of wealthy men. The one, some dozen years ago, finding, as no sensible woman can fail to find, that fashionable life had nothing in it to satisfy her, made a stand for herself. She told her family that she must have a life of her own. She had no especial gifts, except a remarkable aptitude for business, inherited from her father. In a quiet way she had turned her attention to fruit-growing, a branch of industry offering many attractions to her, and into that business she determined to enter. Fortunately she had sufficient money left her by her grandfather, to be able to carry out her plans, despite the sneers of her fashionable acquaintance, and the objections and obstacles raised by the home circle. She established herself on a fruit-farm in the western part of this State. Her work prospered. Now she is the owner of several hundred acres, and has constant and remunerative occupation of a kind agreeable to her. After a few years her father died, and, instead of the rich man he was estimated, he was found to be bankrupt. This daughter had a comfortable home and support to offer her mother and invalid sister. She has quite a settlement of work-people, men and women, to whom she and her sister minister in various ways. In fact, she lives a life which is useful to others and develops her own powers, and in the consciousness of that she finds happiness and peace.—*Lippincott's Magazine.*

AN IRISH STEW.

On a cold winter's day an Irish stew is a very toothsome thing. Many compounds called by the name are not the real thing, and we have seen heterogeneous mixtures of beef and various vegetables served as Irish stew. You can no more make Irish stew out of beef than you can pea soup of pebbles. Mutton is the basis; beef makes a good stew, but it isn't "raale Irish." Then this stew is not only good but economical, as the neck piece of mutton is the part generally preferred. Cut the neck into chops, and wash if bloody. Two and a half pounds of mutton require eight good-sized potatoes, four small onions, and a quart of water. Now in the cooking judgment is required; the meat must be thoroughly done, so as to leave the bone readily, for picking is a part of the pleasure in eating the stew, and the potatoes must be cooked to that point at which they are just ready to go to pieces and have absorbed a good part of the gravy. So if the meat appears at all tough, it had better be stewed awhile by itself; then add the potatoes cut in thick slices, the onions, and pepper and salt. It is to be served very hot, as it is apt to be very rich with fat, and mutton fat hardens readily. This is, of course, not a dish for those who cannot tolerate fat; but most persons who take much exercise in cold weather actually need a good share of fatty food.